Production Research Report No. 50

# Farming in the Great Plains

## A Survey of the Financial and Tenure Situation in 1957



Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE
Washington, D.C.

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## Preface

This report on the 1957 financial and tenure situation of farmers and ranchers in the Great Plains is part of a larger research project, which included studies of land tenure and ownership, farm finance, and land market problems. The study was made by the Farm Economics Research Division, Agricultural Research Service, United States Department of Agriculture.

The project was undertaken as part of an expanded program described in Program for the Great Plains, issued in 1956 by the U.S. Department of Agriculture as Miscellaneous Publication 709. The Program was developed in 1956 by the United States Department of Agriculture in cooperation with the Great Plains Agricultural Council. Recommendations were made for the region in regard to soil conservation, credit, acreage allotments and price supports, research, education, and other actions to assist farm and ranch operators.

General responsibility for the project rested in a division committee representing three major subject-matter fields—Russell W. Bierman, agricultural finance; William H. Scofield, land market and land values; and Gene Wunderlich, farm tenure and land ownership. Survey design and sampling procedures were developed by Burton L. French.

The collection of data was under the general direction of M. L. Upchurch and the direct supervision of the following staff members: Rex D. Helfinstine, South Dakota; William F. Lagrone, Oklahoma; Delbert C. Myrick, Montana; Charles W. Nauheim, Kansas; Harry G. Sitler, Colorado and Wyoming; John H. Southern, Texas; Millard J. Stanek, Nebraska; Marlowe M. Taylor, New Mexico; and Stanley W. Voelker, North Dakota.

This report was written by Russell W. Bierman, Howard L. Hill, John C. Ellickson, Fred L. Garlock, Edmund T. Hamlin, and Lawrence A. Jones; all are agricultural economists with the Farm Economics Research Division.

A statistical supplement to this report has been prepared by Howard L. Hill and Edna M. Heyde; it will be supplied upon request.

The cooperation of the more than 3,600 farmers who were interviewed in the survey is greatly appreciated.

Washington, D.C. Issued May 1961

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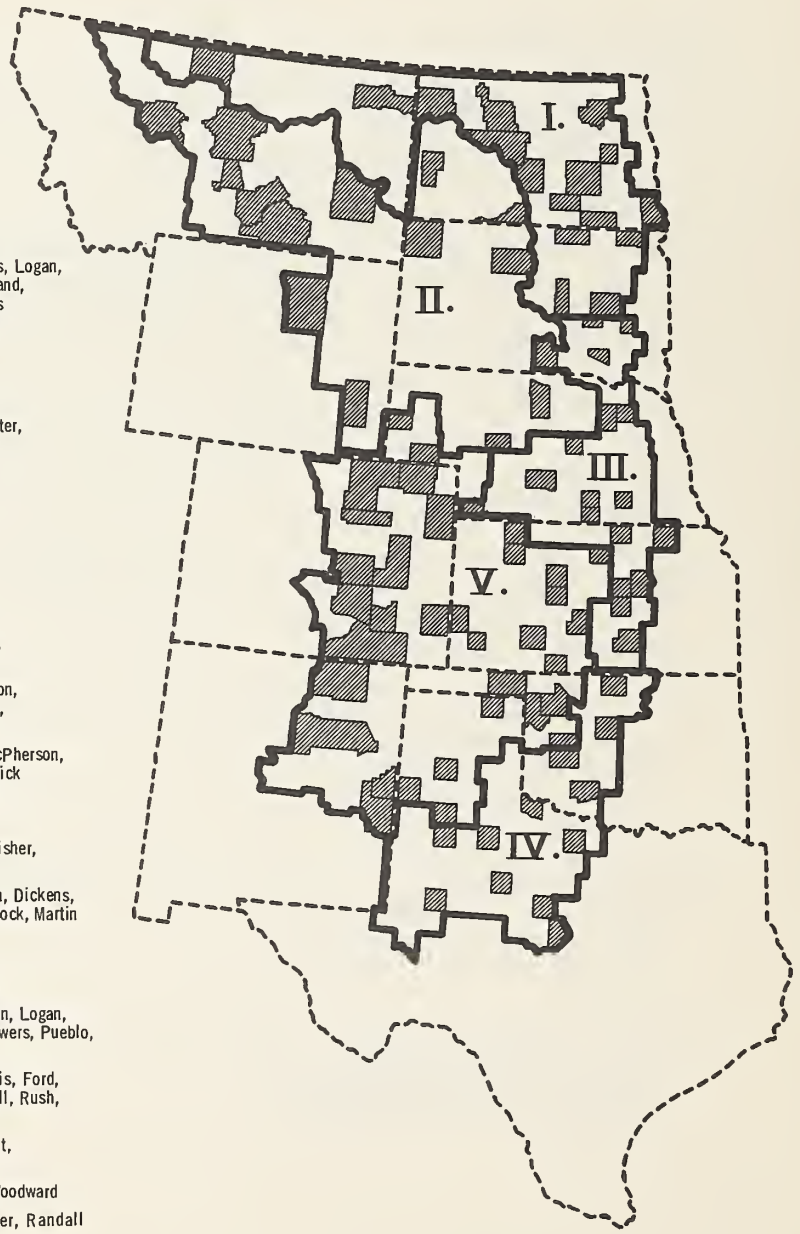
# GREAT PLAINS SURVEY 1957

## Areas Studied and Sample Counties




I. Spring wheat

Mont. – Hill, Roosevelt

N. Dak. – Burleigh, Dickey, Griggs, Logan, McLean, Ramsey, Richland, Stutsman, Ward, Williams

S. Dak. – Beadle, Hyde, Marshall, McPherson

II. Northern range

Mont. – Big Horn, Cascade, Custer, Fergus, Golden Valley, Yellowstone

N. Dak. – Billings, Sioux

S. Dak. – Dewey, Harding

Wyo. – Johnson, Platte

Nebr. – Brown, McPherson

III. Wheat–corn

S. Dak. – Douglas, Jerauld, Miner, Tripp

Nebr. – Adams, Antelope, Dawson, Dundy, Fillmore, Pierce, Valley, Webster

Kans. – Dickenson, Marshall, McPherson, Republic, Saline, Sedgwick

IV. Cotton–wheat

Okla. – Comanche, Grant, Kingfisher, Washita

Texas – Archer, Brown, Callahan, Dickens, Fisher, Hardeman, Lubbock, Martin

V. Winter wheat

Nebr. – Cheyenne, Scotts Bluff

Colo. – Adams, El Paso, Lincoln, Logan, Las Animas, Otero, Prowers, Pueblo, Weld, Yuma

Kans. Comanche, Decatur, Ellis, Ford, Grant, Hamilton, Mitchell, Rush, Sheridan, Stafford

N. Mex. – Colfax, Curry, Roosevelt, San Miguel

Okla. – Beaver, Custer, Ellis, Woodward

Texas – Hale, Ochiltree, Parmer, Randall

U. S. DEPARTMENT OF AGRICULTURE NEG. 59(3)-2633 AGRICULTURAL RESEARCH SERVICE

FIGURE 1

# FARMING IN THE GREAT PLAINS: A SURVEY OF THE FINANCIAL AND TENURE SITUATION IN 1957

## Introduction

The major purposes of the Great Plains Enumerative Survey were to obtain information on (1) requirements and uses for land and capital in farming in the Great Plains and the way in which land and capital are acquired, and (2) the financial, credit, and tenure situation of farmers.

For the survey, the Great Plains Region[1] was divided into five areas representing five general types of agriculture (fig. 1). In each area, a sample of 12 to 30 counties was picked at random to represent varying conditions in the area. Within each selected county, a number of farmers were chosen at random and visited by fieldworkers, who filled in a detailed questionnaire on each farmer's operations and financial condition. Approximately 720 farmers and ranchers were visited in each area. The 1954 Census of Agriculture enumerated 390,000 farmers in the five areas taken together; numbers in the areas varied from 47,000 to 104,000.

The sample was selected so that each farmer or rancher in the region had an equal chance of inclusion; it is believed to be reasonably representative of the region. A comparison of the survey sample with the 1954 Census of Agriculture, however, shows some differences. The survey sample had a higher proportion of owner-operated and high-income farms among the commercial farms than did the census. The percentage of owner-operated commercial farms reported in each area by the census and by the survey were:

| Area | Census | Survey sample |
|---|---|---|
| | *Percent* | *Percent* |
| Spring wheat | 75 | 74 |
| Northern range | 76 | 78 |
| Wheat-corn | 59 | 60 |
| Cotton-wheat | 54 | 60 |
| Winter wheat | 59 | 62 |

Among commercial farms, the percentages of farmers reporting sales of farm products of $10,000 or more for 1954 in the census and for 1956 in the survey were:

| Area | Census | Survey sample |
|---|---|---|
| | *Percent* | *Percent* |
| Spring wheat | 16 | 24 |
| Northern range | 25 | 26 |
| Wheat-corn | 20 | 22 |
| Cotton-wheat | 23 | 25 |
| Winter wheat | 29 | 36 |

In interpreting the data presented, some seasonal factors should be kept in mind. Most questionnaires were taken in late May or June of 1957. At that time, few farmers had sold any 1957 crops; financial assets of farmers and ranchers were probably at a low point for the year; and probably debts (especially those incurred to pay operating expenses) were seasonally high.

The questionnaires, after being taken by the fieldworkers, were given a detailed review and edited for accuracy and consistency. The data were then put on punch cards, and tabulations were prepared. In most of this report, the data are related only to the tenure of the farmer and the size of farm, as shown by sales of farm products in 1956. These two characteristics—tenure and size of farm—are believed to be basic to an understanding of Great Plains farming.

[1] The region includes parts of the following States: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Montana, Wyoming, Colorado, and New Mexico.

# *Chapter 1.*—Summary and Conclusions

Russell W. Bierman

During the early and middle fifties, farmers and ranchers in the Great Plains were faced with a variety of major problems. These problems were reflected in the results of a survey made in 1957 and reported here. There was a decline in farm income, in part reflecting the adjustment from wartime to peacetime conditions. Cash receipts from farm marketings of crops and livestock in the 10 Great Plains States had averaged $7.2 billion per year in the 1947–49 period, more than four times the $1.7 billion obtained in 1940. After 1951, following the Korean war, marketing receipts declined, and the 1956 total was $6.4 billion, or 82 percent of the $7.8 billion received in 1951. A further decline to $6 billion occurred in 1957. In 1958, better crops and higher livestock prices raised cash receipts from farm marketings to $8.2 billion (fig. 2). This improvement occurred after the survey was made.

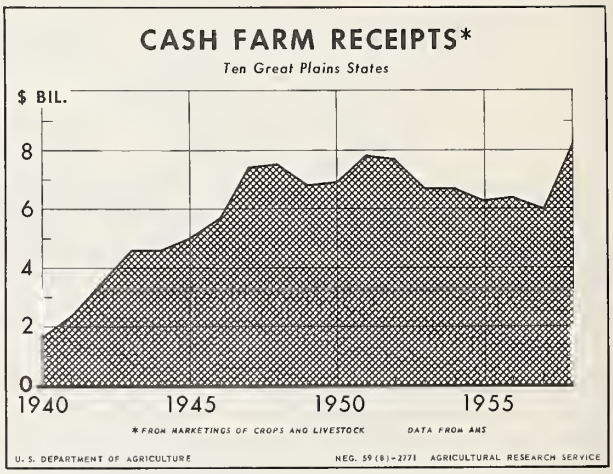



Figure 2

Major problems in soil conservation also arose during the early and middle fifties. Drought affected large areas in the Southern Plains, and by 1954 and 1955, wind erosion was severe in local areas in western Kansas, western Oklahoma, the Texas Panhandle, eastern New Mexico and Colorado, and parts of Nebraska and Wyoming. Temporary erosion-control measures were of some value, but long-run control called for major adjustments in land use, together with increased capital investment and farm enlargement, if farm incomes were to be maintained.

On the average, Great Plains farmers had relatively large assets and net worths in 1957, compared with those of farmers in most other parts of the country. Their financial problems arose chiefly from reduced income rather than from depleted assets and excessive debts.

## Farming in the Great Plains

### Adjustment Problems

The history of farming in the Great Plains shows continuing adjustments of two basic types. First has been the adaptation of farming practices and crops to the conditions of the region. Low rainfall has prompted development and adoption of drought-resistant varieties of wheat and grain sorghums, use of summer fallow and other tillage practices aimed at conservation of moisture, specialization in cash crops and in large-scale cattle ranching, and irrigation development where surface or ground water supplies make irrigation feasible. Second has been the increase in farm size, in terms of both acreage operated and capital invested. Larger and larger aggregations of land and capital have been needed to operate efficiently, to return an adequate income to the farmer and his family, and to allow farmers to acquire the greater financial reserves needed as farming becomes more commercialized and specialized.

Neither of these adjustment problems is new. Farmers in the Great Plains have always been faced with the problem of adapting practices to the climate and of developing farms large enough to return adequate incomes. Although many adjustments have been made, continued changes in response to economic, technological, and climatic conditions will be required in the future.

### Changes in Farm Population and Farm Size

Total population in the Great Plains increased up to 1930, but has been relatively stable since. But there has been a decided shift in population from farm to nonfarm and from rural to urban. In 1920, about half the population of the Plains

lived on farms; about a fourth lived in rural nonfarm areas; and another fourth lived in urban areas. By 1950, the farm population had declined to about a fourth of the total and the urban population had increased to nearly half. Approximately a fourth was classified as rural nonfarm.

In 1930, there were 569,000 farms in the Great Plains. Since then, the number of farms has dropped substantially. In 1954, there were only 390,000. The average size of farm in that year was 850 acres, compared with 490 acres in 1930 and 360 acres in 1910. The growth in size of farms differed by area; it was smallest where the productivity of land was greatest. For example, farm enlargement came earlier and proceeded faster in the northern range area, where large acreages are required for cattle ranching, than in the more intensively farmed wheat–corn area in the eastern Great Plains. Since 1930, the increase in average size of farm has been accompanied by and largely dependent upon a reduction in number of farmers in the Plains (fig. 3).

Accompanying the increase in size of farm in the Great Plains was a greater specialization in cash-crop farming. Farmers learned early that the low and uncertain rainfall restricted severely the kinds of crops that could be grown. Specialization was facilitated by the introduction of efficient tractors and combines after 1920, and it speeded up the trend toward larger farms with larger investments in land and machinery.

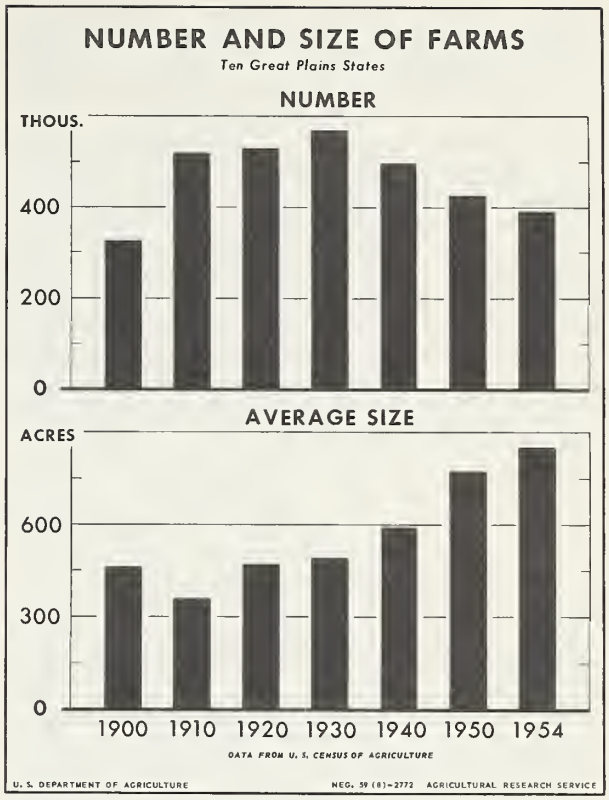



FIGURE 3

## Farm Tenure and Farm Size

An important characteristic of the structure of farm tenure in the Great Plains is the large number and size of part-owner farms—farms with operators who own part of the land they operate and rent part from others. From a third to half of all farmers in the five areas were part owners, a fourth to a third were full owners, and a third or less were tenants. In all areas of the Great Plains, part owners operated a larger share of the land than did either full owners or tenants.

In most of the areas, slightly less than half of all land in farms was rented by the farmers who operated it. Renting enables farmers to gain flexibility in their operations and to share price and production risks with landowners. Also, renting permits them to increase the size of their operations by investing in livestock or machinery rather than in land.

In the northern range and spring wheat areas, there was little difference in patterns of land use between farmers who owned land and those who rented it. In these areas, climate and soils are the most important forces limiting the uses of land, particularly in the northern range area, where 84 percent of the land is in permanent hay and pasture. In the other three areas—wheat–corn, cotton–wheat, and winter wheat—cropland made up a higher percentage of all land on tenant than on part-owner farms and a higher percentage on part-owner than on full-owner farms. In all the areas, cash-crop farms were more likely to be operated by tenants than by owners, probably because tenants were younger on the average than owners, and had smaller assets and fewer livestock.

Average farm size ranged from 2,450 acres in the northern range area to 430 acres in the wheat–corn area. Part-owner farms were largest, ranging from 3,600 acres in the northern range area to 570 acres in the wheat–corn area. Tenant farms ranged from 1,240 acres in the northern range area to 360 acres in the wheat–corn area. Full-owner farms were smaller than tenant farms in four of the areas, ranging from 980 acres per farm in the northern range area to 350 acres in the wheat–corn area.

Farm size has increased steadily in the Great Plains but, as elsewhere, the size changes that can be made in the future will depend on the amount of land made available by the retirement, death, or migration of other farmers, and also on the amount of land that is acquired by beginning farmers. Most of the farmers who were farming in the Great Plains in 1957 planned to continue

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to farm the same acreage in the near future. The number of farmers who were planning to increase their acreages was much smaller, but it exceeded the number planning to retire or to look for part-time or full-time nonfarm employment.

An estimate was made of the amount of land that would be made available to enlarge existing farms, if the farmers who planned to retire or to obtain nonfarm employment carried out their intentions. The findings were that, in all areas, less land would be made available than the remaining farmers could operate with their present labor and equipment. If the total acreage expected to be available for farm enlargement is distributed only among those farmers who planned to acquire more land, which was about half the number that could operate more land, the average enlargement possible is still less than the additional acreage that could be operated, even before land requirements of beginning farmers are considered.

When farmers have equipment and labor that are not fully utilized, they have a strong incentive to acquire more land in order to increase total volume of production and reduce average costs of production. Under these conditions, the competition among farmers for land could have important effects on the price of land and the terms of land sales. Also, if competition for land to rent is strong, rental rates and lease terms may be influenced. The impact of strong competition for land is likely to fall most heavily upon beginning farmers who have little or no family assistance and other operators who are in a weak financial position.

## Farm Income and Financial Structure

### The Situation in the 1950's

Farm prices were generally unfavorable during the 1920's, and in the early thirties they dropped to ruinously low levels. The situation in the Great Plains was further aggravated by the severe droughts of the middle thirties. But thereafter until the early fifties, rainfall and yields were generally above average, and during World War II and in the postwar years, particularly during the Korean emergency, prices rose to levels far above those of the 1920's and 1930's.

During these years—and particularly during the war years—farmers of the region paid off large amounts of debt and greatly increased their financial reserves. The run of generally good crops and prices was of greatest benefit to the operators who had started farming before World War II and who had bought land before real estate prices rose. From 1940 to 1950, the average value of farm real estate rose about 90 percent in the Southern Plains and nearly 133 percent in the Northern Plains. As farm real estate constituted about 60 percent of the value of all assets owned by owner-operators in the Great Plains, the rise in land values greatly strengthened the financial condition of the farmers who owned land or who bought land during the early stages of the price rise.

The peak for prices of farm products was reached in 1951 during the Korean action. After 1951, prices for many farm products declined and, with mandatory price supports in effect, acreage allotments were placed on some of the principal crops of the region. Severe and protracted drought developed in the Southern Plains during the early fifties, and other parts of the Plains were also affected by drought, though less severely. In some areas, livestock herds were reduced because of a short feed supply. Although weather in the Great Plains had improved by the time of the survey in 1957, net farm incomes had not recovered to earlier levels. Despite the decline in farm income, land values continued to rise, further increasing the value of the assets owned by farmers. From 1950 to 1958, farm real estate values increased more than 50 percent in the Southern Plains and about 40 percent in the Northern Plains.

### Amount and Sources of Income

The income data obtained in the 1957 survey are for the year 1956. Total receipts from marketings of crops and livestock in 1956 in the 10 Great Plains States were about 20 percent less than in the peak year of 1951 and 8 percent below the 1950–58 average. In 1956, the total net farm income including the value of changes in farm inventories of crops and livestock was about half what it was in 1951 and about two-thirds of the 1950–58 average.

In the cotton–wheat area, about a third of the farmers received less than $2,500 in total cash farm receipts in 1956 and about half had less than $5,000. In other areas, fewer farmers were in these lower income groups—in the spring wheat area, only about a tenth had less than $2,500 and a third were under $5,000. In each area, a fourth or more of the farmers had total cash farm receipts of $10,000 or more in 1956.

The figures on *net* cash income show a similar wide variation. Net cash income is the income available to the family from all sources for living expenses and savings or investment after all operating expenses have been paid. Depreciation charges were not deducted from net cash income. A fifth of the farmers in the Great Plains had net cash incomes from all sources, farm and nonfarm, of less than $1,000 in 1956. Slightly more than two-fifths had less than $2,500, and three-fourths had less than $5,000.

Net cash incomes of $10,000 or more were received by 6 percent of the farmers. These incomes do not reflect changes in the value of assets owned by farmers.

The value of both farm products sold and net cash income varied directly with the value of assets used by farmers. For example, in the spring wheat area, owner-operated farms with sales of farm products valued at less than $5,000 in 1956, had farm assets valued at $30,000 and a net cash income from all sources of about $2,500. Net cash income from farming averaged $1,700. On owner-operated farms with sales of $10,000 or more, the average value of farm assets was $96,000 and net cash income from farming was $7,100. Average net cash income from all sources was $7,900.

Many farmers had nonfarm income with which to supplement their farm earnings. Nonfarm income varied from 15 percent of the total in the spring wheat area to 44 percent in the cotton–wheat area. Small farmers had income from off-farm work more frequently than did operators of large farms, but usually the nonfarm income of small farmers was not sufficient to make their total net income equal to that of the larger farmers.

## Assets Used in Farming

In 1957, the average value per farm of assets used in farming in the United States was about $31,000. In the Great Plains, the average value varied from $54,000 in the spring wheat area to $93,000 in the winter wheat area. The largest part of these farm assets was the value of farm real estate, which made up three-fourths or more of the total in all areas of the Plains.

The average value of assets used in farming increased directly with the sales of farm products. For owner-operated farms selling $10,000 or more in farm products, the average value of assets was usually about twice as large as for those with sales of $5,000 to $9,999 and three to five times as large as for those with sales of less than $5,000.

Except in the winter wheat area, usually a fifth to a fourth of the farmers operated farm assets valued at less than $25,000 in 1957. The proportion with operating assets valued at $50,000 or more ranged from approximately 40 to 65 percent. The proportion with farm assets of $100,000 or more made up nearly a third of all farms in the winter wheat area but only a tenth in the spring wheat area.

## Financial Situation of Farmers

On the average, Great Plains farmers owned assets valued at about $50,000 in 1957. Their debts averaged about $5,000. Their net worths—or the value of their assets minus the amount of their debts—averaged nearly $45,000. The average amount of net worth tended to reflect differences among the areas in average size of farm and value of assets used in farming. It was highest in the northern range and winter wheat areas and lowest in the wheat–corn area.

But the net worths of farmers in the Great Plains were more closely related to their tenure situation and age than to the size of the farms or the value of the assets they operated.

As a rule, tenants operated larger, more valuable farms, but had much smaller net worths than did full owners. The value of the land rented by tenants made up from 75 to 90 percent of the total value of assets they used in farming. In most areas, the net worths of part and full owners were about the same but the part owners operated the larger, more valuable farms. The value of the land rented by part owners accounted for a fourth to nearly half the total value of the assets they used in their operations.

Net worths also tended to increase with the age of the farmer. About a third of the farmers 45 and over were worth $50,000 or more, but less than 10 percent of those under 35 were this well off. Conversely, more than 40 percent of the farmers under 35 had net worths of less than $10,000, while only about an eighth of those 45 and over had net worths as low as this.

With an average ratio of debts to assets of around 10 percent, it might be thought that, by increasing their debts, Great Plains farmers could enlarge their farms, buy more machinery and livestock, and continue the adjustment to larger farms that is characteristic of the region. In many ways and to a considerable extent, this is true for individual farmers, but it could not be true for all farmers now in the region because the total amount of land is limited.

In 1957, the average amount of financial assets owned by Great Plains farmers was $5,300. This was about 10 percent of all assets and compares with an average investment in livestock of $5,200 and an average investment in motor vehicles and machinery of $6,300. More than half of the financial holdings of Great Plains farmers was in readily cashable form in bank deposits, United States bonds, and other marketable securities. About a fourth of the holdings were in less liquid investments, such as notes, mortgages, unincorporated businesses, and cooperatives. The remaining fifth was the net cash value, after deduction of policy loans, of life insurance owned by farmers.

The amount of financial assets seemed to be related basically to the age of the farmer and the size of the farm. Full owners, on the average, are older than part owners, and part owners are older than tenants. Average financial assets were usually higher for full than for part owners and higher for part owners than for tenants. Similarly, for both owner-operators and tenants, the average amount of financial assets increased as sales of farm products increased.

### The Use of Credit

The use of credit is a basic characteristic of commercial agriculture in all regions of the country. In the Great Plains, it is especially important because of the larger average size of farm and value of production. Nearly half of all Great Plains farmers interviewed in 1957 had requested credit—in the form of either loans or purchases on credit—in the previous year, and about three-fourths of all farmers had debts of some kind.

More of the younger than of the older farmers had debts in 1957. In the wheat–corn area, only a third of the farmers 65 and over had debts in 1957, but more than 80 percent of the farmers under 35 reported debts. Similarly, the proportion of tenants reporting debt or requesting credit in the previous year was higher than that for the owner-operators, who are usually older. The presence of debt and the use of credit was also related to the size of the farm business. More of the farmers who sold $10,000 worth or more of farm products in 1956 had debts than was true of those selling less.

Payment of operating expenses was the most common reason reported by farmers for requesting credit in the year preceding the 1957 survey. From half to three-fourths of the farmers in the five Great Plains areas had asked for credit for operating expenses. Purchase of machinery was the next most important purpose followed by purchase of livestock. Usually from 5 to 10 percent of the farmers in each area had requested credit for the purpose of buying real estate.

### Sources and Adequacy of Credit

Banks were the most important source of credit reported by both owner-operators and tenants. Merchants and dealers were next in importance. Large-scale owner-operators more often reported owing money to banks, insurance companies, individuals, and production credit associations than did small owner-operators, whereas the latter more frequently owed the Farmers Home Administration and merchants and dealers. Small owner-operators more often also had taxes due and unpaid. Tenants reported owing money to banks and to merchants and dealers more frequently than did owner-operators.

About half of all Great Plains farmers requested credit from someone in the year preceding the 1957 survey, and from 90 to 95 percent of the farmers requesting credit obtained it. The small percentage of farmers who did not obtain credit includes both farmers who were refused credit and farmers who could have obtained credit but declined it because the terms were not acceptable to them.

Although most farmers obtained some of the credit they requested, many did not obtain it from the first lender from whom they requested it and many did not obtain all they asked for. In the cotton–wheat areas, the amount of credit granted was about 98 percent of that requested, but in the spring wheat and northern range areas, the amount received was only three-fourths of that asked for. The data are not entirely consistent, but in general, tenants obtained a smaller proportion of the credit requested than did owners, and small owners received less than large owners. Those farmers who had been most successful in enlarging their farms and expanding production in the past found it easier to obtain the credit they wanted.

Perhaps equally as important as the proportion of farmers who asked for credit and the amount they received is the large group of farmers who did not request credit. From half to two-thirds of the owner-operators who sold less than $5,000 worth of farm products did not request credit in the year preceding the survey. Small farmers seem to be less willing to borrow money, and possibly credit is not quite so readily available to them as it is to large farmers.

## Conclusions

An important objective of long-run agricultural policy for the Great Plains could be to facilitate the two basic types of adjustments that have been underway since settlement of the Plains began. These adjustments are (1) the development and adoption by farmers of crops, techniques, and practices best adapted to the soils and climate of the region, and (2) the increase in size and efficiency of the region's farms. Improved farming practices and appropriate farm size go together and the most successful farmers are those who have been able to make both of these adjustments rapidly.

Credit can facilitate the region's farming adjustments by assisting farmers to stock and equip their farms and to enlarge them. Credit, of course, cannot finance the purchase of more land by all farmers now farming. But as nonfarm employment opportunities continue to attract farm people to other occupations, additional land will be made available for enlargement of the remaining farms.

Renting additional land is a more common method of farm enlargement than is buying it, and in some respects, it may be preferable. The

crop-share lease is the most common type of lease used in the region. But there may be instances in which livestock-share leases or partnerships with landowners or others would assist in the enlargement of farms and the adoption of better farming practices.

The large investment required for a farm of adequate size in the Great Plains means that the problems of young farm people in the region need to be viewed in a new light. For many of them, the problem is more realistically that of preparing for and getting a nonfarm job than it is of obtaining through purchase or lease the $50,000 or more in assets that make up an average-sized farm in the Great Plains. In general, unless a young man is able to obtain considerable family assistance, he will find it very difficult to obtain a farm large enough for the region.

# *Chapter 2.*—Farming in the Great Plains

John C. Ellickson

The Great Plains is a unique agricultural region. It was the last large section of the country to be settled, but it now has the highest proportion of total land area in farms of any major agricultural region. Average crop yields per acre are low because of frequent droughts, but average incomes per farm are usually above the national average, partly because of the relatively small proportion of part-time and residential farms the region contains.

As a background for the 1957 tenure and financial survey of Great Plains farmers, the history of farming in the Plains may be divided into two periods. The first was settlement, which was substantially completed in all areas by 1930. The period since 1930 has been one of continuing adjustment to changing technology and economic conditions, and of farm consolidation and relocation of population.

Total population increased rapidly from 1900 to 1910 and continued to grow in the next two decades. Since 1930, total population has declined or remained essentially stable, except around the limited number of industrial centers or near large gas and oil developments. The urban population in the larger towns and cities has increased steadily in all areas since 1900, but between 1930 and 1950, the rural population decreased by a fifth, to a level 5 percent lower than it had been in 1910 (table 1).

After 1900, the number of farms about doubled, reaching 569,000 in 1930. Since then the number has decreased in all areas by about a third; in 1954, the total was 390,000, or 25 percent less than the 516,000 farms reported in 1910 (table 2).

Great Plains agriculture has been distinguished by radical adjustments in the nature of farming, during as well as after the settlement period. Settlers soon discovered that the farming methods they had followed in humid areas were not adapted to Plains conditions. Limited and uncertain precipitation restricted severely the kinds of crops that could be grown. Varieties of wheat adapted to the climate were found and developed, and wheat became the main cash crop in the Plains. Flax and barley also became important in the Northern Plains and sorghum and cotton in the Southern Plains. These cash crops and livestock, chiefly beef cattle, proved to be the most dependable sources of cash income. A diversified type of agriculture was not possible because of the climate. Local markets for farm products and opportunities for off-farm work were limited by the sparse

Table 1.—Population: *Urban, rural, and total, areas of the Great Plains, selected years, 1900–50* [1]

| Item and year | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | Great Plains |
|---|---|---|---|---|---|---|
| | *Thousands* | *Thousands* | *Thousands* | *Thousands* | *Thousands* | *Thousands* |
| Urban population: [2] | | | | | | |
| 1900 | 30 | 63 | 138 | 65 | 272 | 568 |
| 1910 | 68 | 92 | 213 | 172 | 467 | 1,012 |
| 1920 | 92 | 121 | 274 | 242 | 561 | 1,290 |
| 1930 | 114 | 138 | 353 | 406 | 719 | 1,730 |
| 1940 | 127 | 169 | 365 | 451 | 817 | 1,929 |
| 1950 | 155 | 221 | 484 | 670 | 1,155 | 2,685 |
| Rural population: [3] | | | | | | |
| 1900 | 276 | 149 | 864 | 331 | 438 | 2,058 |
| 1910 | 508 | 350 | 939 | 660 | 813 | 3,270 |
| 1920 | 601 | 470 | 927 | 660 | 911 | 3,569 |
| 1930 | 610 | 490 | 908 | 861 | 1,025 | 3,894 |
| 1940 | 535 | 447 | 802 | 740 | 936 | 3,460 |
| 1950 | 477 | 414 | 709 | 641 | 879 | 3,120 |
| Total population: | | | | | | |
| 1900 | 306 | 212 | 1,002 | 396 | 710 | 2,626 |
| 1910 | 576 | 442 | 1,152 | 832 | 1,280 | 4,282 |
| 1920 | 693 | 591 | 1,201 | 902 | 1,472 | 4,859 |
| 1930 | 724 | 628 | 1,261 | 1,267 | 1,744 | 5,624 |
| 1940 | 662 | 616 | 1,167 | 1,191 | 1,753 | 5,389 |
| 1950 | 632 | 635 | 1,193 | 1,311 | 2,034 | 5,805 |

[1] Derived from census data.

[2] Urban for all years includes places with populations of 2,500 or more in 1950. Estimated when not reported separately by the census.

[3] Minus populations of all places that had attained populations of 2,500 by 1950.

population, and native timber for fuel and farm structures was not available. The need for larger cash incomes from farming was therefore greater than in humid areas.

TABLE 2.—*Number of farms, areas of the Great Plains, selected years, 1900–54* [1]

| Year | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat | Great Plains |
|---|---|---|---|---|---|---|
| | *Thousands* | *Thousands* | *Thousands* | *Thousands* | *Thousands* | *Thousands* |
| 1900 | 47 | 22 | 138 | 48 | 67 | 322 |
| 1910 | 73 | 68 | 142 | 103 | 130 | 516 |
| 1920 | 90 | 77 | 137 | 93 | 132 | 529 |
| 1930 | 89 | 74 | 139 | 129 | 138 | 569 |
| 1940 | 81 | 62 | 128 | 104 | 121 | 496 |
| 1950 | 71 | 51 | 111 | 86 | 104 | 423 |
| 1954 | 67 | 47 | 104 | 75 | 97 | 390 |

[1] Derived from census data.

These conditions compelled farmers to increase the size of their farms and to specialize in certain types of farming. Larger farms were necessary because the usual homestead size of 160 acres carried over from humid areas was too small to meet conditions found in the Great Plains. Farm enlargement was possible, as additional land was usually available, either from homesteaders who left the area as soon as they obtained title to their land or from railroad and State school land grants that could be leased or purchased at low cost. Furthermore, there were no stumps or stones to be removed, and once the prairie sod was broken, the land was easily tilled. Multiple team hitches and gang equipment speeded fieldwork.

The extent of the adjustment to larger farms differed by areas in the Great Plains, depending on the productivity of the land. For example, the wheat–corn area is generally more humid and productive than other parts of the Plains; it required the smallest adjustment to larger farm sizes. Even so, less progress was made in this area than in any other. By 1954, the cotton–wheat area was the only area in the Great Plains in which more than half of all farms had less than 260 acres. Presumably, this was because of the relatively high labor requirements and crop values per acre for cotton and the extensive pump irrigation. At the other extreme, adjustment to larger farms has been greatest in the northern range area, where much of the land is usable only for grazing. But in all areas of the Plains, the shift to larger farms has proceeded more rapidly than in the rest of the country (table 3).

Occasionally, the average size of farm was reduced by closer settlement. For example, between 1900 and 1910 in many parts of the Plains, large cattle ranches were replaced by smaller crop or general farms. This was reflected in a reduction in the average size of farm in all areas except the wheat–corn area during that period. Similarly, between 1920 and 1930, livestock ranches

TABLE 3.—*Number and percentage distribution of farms, by size, areas of the Great Plains, and the rest of the United States, selected years, 1910–54* [1]

| Area and year | All farms | Distribution of farms | | | | |
|---|---|---|---|---|---|---|
| | | Under 260 acres | 260 to 499 acres | 500 to 999 acres | 1,000 acres and over | Total |
| | *Thousands* | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Spring wheat: | | | | | | |
| 1910 | 73 | 34 | 43 | 19 | 4 | 100 |
| 1930 | 89 | 21 | 42 | 28 | 9 | 100 |
| 1950 | 71 | 16 | 33 | 33 | 18 | 100 |
| 1954 | 67 | 14 | 30 | 35 | 21 | 100 |
| Northern range: | | | | | | |
| 1910 | 68 | 53 | 21 | 18 | 8 | 100 |
| 1930 | 74 | 22 | 27 | 28 | 23 | 100 |
| 1950 | 51 | 18 | 17 | 24 | 41 | 100 |
| 1954 | 47 | 17 | 15 | 24 | 44 | 100 |
| Wheat–corn: | | | | | | |
| 1910 | 142 | 70 | 23 | 6 | 1 | 100 |
| 1930 | 139 | 65 | 27 | 7 | 1 | 100 |
| 1950 | 111 | 53 | 32 | 12 | 3 | 100 |
| 1954 | 104 | 49 | 34 | 13 | 4 | 100 |
| Cotton–wheat: | | | | | | |
| 1910 | 103 | 80 | 14 | 4 | 2 | 100 |
| 1930 | 129 | 79 | 15 | 4 | 2 | 100 |
| 1950 | 86 | 58 | 26 | 11 | 5 | 100 |
| 1954 | 75 | 51 | 29 | 13 | 7 | 100 |
| Winter wheat: | | | | | | |
| 1910 | 130 | 58 | 27 | 10 | 5 | 100 |
| 1930 | 138 | 41 | 29 | 20 | 10 | 100 |
| 1950 | 104 | 35 | 24 | 22 | 19 | 100 |
| 1954 | 97 | 33 | 22 | 23 | 22 | 100 |
| Great Plains: | | | | | | |
| 1910 | 516 | 62 | 25 | 10 | 3 | 100 |
| 1930 | 569 | 50 | 27 | 15 | 8 | 100 |
| 1950 | 423 | 39 | 27 | 19 | 15 | 100 |
| 1954 | 390 | 36 | 27 | 20 | 17 | 100 |
| United States minus Great Plains: | | | | | | |
| 1910 | 5,845 | 92.8 | 5.4 | 1.3 | 0.5 | 100 |
| 1930 | 5,720 | 92.9 | 5.2 | 1.3 | .6 | 100 |
| 1950 | 4,956 | 89.4 | 7.3 | 2.1 | 1.2 | 100 |
| 1954 | 4,392 | 87.0 | 9.0 | 2.5 | 1.5 | 100 |

[1] Derived from census data.

were subdivided into crop farms in the cotton–wheat area. With these exceptions, all areas of the Great Plains showed a steady increase in average size of farm, in each decade both before and after the close of the settlement period (table 4).

The second major adjustment in the agriculture of the region was a greater specialization in cash–grain farming. The first settlers could readily combine crop farming on their homesteads with livestock on the free range, but this became less feasible as more land was taken up by homesteaders. With the advent of efficient tractors and combines after 1920, the total acreage of cropland increased and more farmers specialized in production of cash crops.

As more of the prairie sod was broken up, the free range practically disappeared, and ranchers acquired grazing rights on the less productive land

TABLE 4.—*Average size of farm, areas of the Great Plains, selected years, 1900–54* [1]

| Year | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | Great Plains |
|---|---|---|---|---|---|---|
| | *Acres* | *Acres* | *Acres* | *Acres* | *Acres* | *Acres* |
| 1900 | 424 | 729 | 235 | 773 | 620 | 457 |
| 1910 | 414 | 478 | 242 | 352 | 403 | 360 |
| 1920 | 486 | 777 | 258 | 355 | 579 | 470 |
| 1930 | 548 | 996 | 262 | 283 | 609 | 492 |
| 1940 | 601 | 1, 312 | 287 | 374 | 736 | 594 |
| 1950 | 766 | 1, 883 | 333 | 469 | 926 | 766 |
| 1954 | 835 | 2, 079 | 357 | 554 | 1, 023 | 851 |

[1] Derived from census data.

by lease or purchase. This further increased the average size of farm, and land in farms, as reported by the census, accounted for a larger proportion of the total land area. This proportion increased from 41 percent in 1900 to 77 percent in 1930, and to 91 percent by 1954. In 1954, the Great Plains accounted for 29 percent of all land in farms reported by the census, although it contains only 19 percent of the total land area of the country. Nearly all land in the Great Plains can be either cropped or grazed, and no other large section of the United States now has so high a proportion of its total land area in farms (table 5).

The outstanding adjustment in population made in the Great Plains since 1930 has been a movement from farm to town or city. The rural-farm population decreased from 47 percent of the total population in 1930 to 28 percent in 1950. The urban population in the same period increased from 31 to 46 percent of the total population (table 6). This change in the structure of a relatively stable population stems from a complex of factors.

An obvious cause of the decrease in farm population and the increase in nonfarm population was an increasing separation of home and farm in many parts of the Great Plains. This separation had become possible because of the increasing specialization in production of cash crops and the widespread use of automotive equipment for farming and transportation. There was little to do on a grain farm during the winter. Fewer trips were required to go from town to farm during the busy season than to go from farm to town during the school year. In addition, a sparse farm population limits the availability of community services, and maintaining these services becomes increasingly difficult if even more farmers leave an area or move to town. Below some critical population density, this adjustment tends to accelerate. For example, in State Economic Area 1, in southwestern Kansas, the proportion of farm operators who were not living on their farms increased from 19 percent in 1950 to 27 percent in 1954. But in central Kansas, State Economic Area 2b, nonresident operators increased only from 11 to 13 percent during the same period. Because livestock requires more frequent attention, this adjustment has not reached these proportions in the two livestock areas—the wheat–corn and the northern range (table 7).

The larger towns and cities grew as they became market and service centers for wider areas, but little industrial development has occurred in the

TABLE 5.—*Percentage of total land area in farms, areas of the Great Plains, selected years, 1900–54* [1]

| Year | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | Great Plains |
|---|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| 1900 [2] | 31 | 15 | 84 | 85 | 39 | 41 |
| 1910 | 48 | 29 | 90 | 84 | 49 | 51 |
| 1920 | 69 | 54 | 92 | 76 | 72 | 68 |
| 1930 | 77 | 67 | 95 | 84 | 79 | 77 |
| 1940 | 77 | 73 | 95 | 89 | 84 | 81 |
| 1950 | 86 | 86 | 96 | 92 | 90 | 89 |
| 1954 | 89 | 88 | 97 | 95 | 93 | 91 |

[1] Derived from census data.
[2] Partly estimated because of changes in county boundaries.

TABLE 6.—*Population and percentage distribution, urban and rural, areas of the Great Plains, selected years, 1920–50* [1]

| Area and year | Population | Percentage distribution | | | |
|---|---|---|---|---|---|
| | | Urban [2] | Rural nonfarm | Rural farm [3] | Total |
| | *Thousands* | *Percent* | *Percent* | *Percent* | *Percent* |
| Spring wheat: | | | | | |
| 1920 | 693 | 13 | 25 | 62 | 100 |
| 1930 | 724 | 16 | 25 | 59 | 100 |
| 1940 | 662 | 19 | 30 | 51 | 100 |
| 1950 | 632 | 25 | 33 | 42 | 100 |
| Northern range: | | | | | |
| 1920 | 591 | 21 | 19 | 60 | 100 |
| 1930 | 628 | 22 | 24 | 54 | 100 |
| 1940 | 616 | 27 | 29 | 44 | 100 |
| 1950 | 635 | 35 | 32 | 33 | 100 |
| Wheat–corn: | | | | | |
| 1920 | 1, 201 | 23 | 25 | 52 | 100 |
| 1930 | 1, 261 | 28 | 24 | 48 | 100 |
| 1940 | 1, 167 | 31 | 26 | 43 | 100 |
| 1950 | 1, 193 | 40 | 27 | 33 | 100 |
| Cotton–wheat: | | | | | |
| 1920 | 902 | 27 | 20 | 53 | 100 |
| 1930 | 1, 267 | 32 | 19 | 49 | 100 |
| 1940 | 1, 191 | 38 | 20 | 42 | 100 |
| 1950 | 1, 311 | 51 | 24 | 25 | 100 |
| Winter wheat: | | | | | |
| 1920 | 1, 472 | 38 | 20 | 42 | 100 |
| 1930 | 1, 744 | 41 | 23 | 36 | 100 |
| 1940 | 1, 753 | 47 | 23 | 30 | 100 |
| 1950 | 2, 034 | 57 | 23 | 20 | 100 |
| Great Plains: | | | | | |
| 1920 | 4, 859 | 26 | 22 | 52 | 100 |
| 1930 | 5, 624 | 31 | 22 | 47 | 100 |
| 1940 | 5, 389 | 36 | 24 | 40 | 100 |
| 1950 | 5, 805 | 46 | 26 | 28 | 100 |

[1] Derived from census data.
[2] For all years, includes places with populations of 2,500 or more in 1950.
[3] Estimated from State totals for 1920.

TABLE 7.—*Percentage of farmers not residing on the farm operated, areas of the Great Plains, 1950, 1954, and 1957*

| Year | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | Great Plains |
|---|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| 1950 [1] | 11 | 8 | 6 | 10 | 12 | 9 |
| 1954 [1] | 12 | 10 | 8 | 15 | 16 | 12 |
| 1957 [2] | 17 | 12 | 9 | 17 | 18 | 14 |

[1] Derived from census data.
[2] Survey data.

Great Plains. With a declining farm population, better roads and increasing use of automobiles, the smaller towns declined in importance as trade centers but were increasingly occupied by active and retired farmers.

To what extent have these adjustments in farm size, specialization, and nonresident operation enabled Great Plains farmers to earn adequate incomes? The latest data relating gross income from farming to size, for all farms, is from the 1950 census. As a first approximation and allowing for annual fluctuations in farm income, it seems reasonable to assume that around 50 percent of all farmers in a representative year should report gross sales of at least $10,000, and that not more than 25 percent should have gross incomes of less than $5,000. By this crude standard, the largest farms, those of 1,000 acres or more, appear to be economically adequate in all areas, though barely so in the spring wheat and northern range areas. Farms of 500 to 999 acres are adequate only in the cotton–wheat area. In all areas, farms of less than 260 acres are mainly low-income farms, as are farms of 260 to 499 acres in the spring wheat and northern range areas. Compared with those in other sections of the country, Great Plains farms are large when measured in acres but not when measured by value of sales of farm products or by labor requirements (table 8).

The financial history of the Great Plains has been one of prosperity when large crops are sold at high prices, as in the 1940's, and of privation and depression when crops are short and prices low, as in the 1930's. A period of relative prosperity up to about World War I was ended by drought in many areas in 1918 and 1919 and the collapse of farm prices in 1920. Many mortgages were foreclosed and banks failed. Low prices, drought, and wheat rust in the 1930's brought on severe farm depression, and many operators gave up farming and left the Great Plains.

On the whole, from 1940 to 1953, precipitation and crop yields were above average. Parts of the Southern Plains experienced severe drought in the middle fifties, but the 1957 survey reflected the

TABLE 8.—*Percentage distribution of farms, by size and by economic class of farm, areas of the Great Plains, 1950* [1]

| Area and economic class [2] | Size of farm | | | | All farms |
|---|---|---|---|---|---|
| | Less than 260 acres | 260 to 499 acres | 500 to 999 acres | 1,000 acres and over | |
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Spring wheat: | | | | | |
| I and II | 2 | 4 | 16 | 44 | 14 |
| III | 6 | 26 | 44 | 36 | 31 |
| All other | 92 | 70 | 40 | 20 | 55 |
| Northern range: | | | | | |
| I and II | 7 | 7 | 11 | 44 | 23 |
| III | 13 | 18 | 32 | 30 | 26 |
| All other | 80 | 75 | 57 | 26 | 51 |
| Wheat–corn: | | | | | |
| I and II | 4 | 14 | 34 | 62 | 12 |
| III | 19 | 42 | 41 | 27 | 29 |
| All other | 77 | 44 | 25 | 11 | 59 |
| Cotton–wheat: | | | | | |
| I and II | 9 | 35 | 56 | 68 | 24 |
| III | 21 | 33 | 23 | 19 | 24 |
| All other | 70 | 32 | 21 | 13 | 52 |
| Winter wheat: | | | | | |
| I and II | 12 | 17 | 36 | 66 | 29 |
| III | 14 | 32 | 33 | 20 | 24 |
| All other | 74 | 51 | 31 | 14 | 47 |
| Great Plains: | | | | | |
| I and II | 7 | 16 | 28 | 54 | 20 |
| III | 17 | 33 | 37 | 27 | 27 |
| All other | 76 | 51 | 35 | 19 | 53 |

[1] Derived from census data.
[2] Economic classes I and II include all farms with farm product sales of $10,000 or more. Economic class III includes all farms with sales from $5,000 to $9,999.

financial position of Great Plains farmers after a long run of favorable years. Land values had been increasing for 20 years and, combined with the increase in size of farm, this meant that the average value of assets per farm was at a record high. The level of mortgage debt was comparatively low.

The general run of good crops and prices benefited especially the larger operators who had owned land for 10 years or more when the survey was made in 1957. Rising land values had increased their net worth, and they had had time to pay off at least part of their debts. But tenants and operators of smaller farms, especially those who had bought land after prices went up, had smaller capital gains in the value of their farm assets and less time to pay off debts.

Adjustments by Great Plains farmers in the direction of larger farms, greater specialization, and more nonresident operations, may be expected to continue for several decades. The power of the forces for change is demonstrated by the fact that these adjustments tended to move in the same direction both before and after the close of the settlement period and through the depressed 1930's and the prosperous 1940's.

# *Chapter 3.*—Farm Size and Land Use in the Great Plains

Howard L. Hill

Many of the important economic problems faced by farmers in the Great Plains are related to the size of their farms. Physical factors, such as climate, soils, and topography, largely determine the kinds of crops that can be grown successfully in the region and the tillage practices they require. Other factors, such as the technology and equipment available to farmers, the prices received for farm products, and the tenure arrangements under which land is operated, also have important effects on farming practices. Farmers in the region have made continuing adjustments in the size and organization of their farms as farming methods and economic conditions have changed.

This chapter summarizes survey data that describe the size of farms and the use of land in the five Great Plains areas in 1957. Included also are data pertaining to the location of farmers' residences and the operation of separate tracts of land.

## Size of Farms

The average size of farms and ranches in the five areas ranged from 430 acres in the wheat–corn area to 2,450 acres in the northern range area. The five areas fall into three groups, in which average farm acreages are generally comparable, as follows: (1) The wheat–corn and cotton–wheat areas, in which farms averaged 430 and 450 acres, respectively; (2) the spring wheat and winter wheat areas, in which farms averaged 880 and 920 acres, respectively; and (3) the northern range area, in which farms averaged 2,450 acres. (See chapter 4.)

The smaller average acreage of farms in the wheat–corn area compared with farm acreages in the spring wheat and winter wheat areas results primarily from differences in amount of rainfall and in crop yields. Because rainfall is more adequate and crop production more certain, an increase in farm output in the wheat–corn area does not depend as heavily upon expanded farm acreage as it would over much of the spring wheat and winter wheat areas.

The average size of farms in the cotton–wheat area reflects the relative importance of cotton farms in the area. A third of the area farms included in the sample were cotton farms. Generally, their acreage is smaller than that of other types of farms in the region, as labor requirements for cotton production are high and this limits the acreage that most farm families can operate. Also, irrigation was fairly important in the area. A fifth of the farmers interviewed had some irrigated land. Much of the irrigated land in the area is used for cotton production, which requires more field operations than does nonirrigated cotton.

Cash–grain farms are important in some sections of the northern range area and many of the farms have large crop acreages. But in much of the area, where low rainfall and rough terrain make cultivation impracticable, grazing is the principal use for land. Both cash–grain and grazing operations in the region usually require a comparatively large acreage for efficient production.

Closely related to the physical and economic factors that affect the size of farms in the Great Plains are the tenure arrangements under which the land is operated. Part owners operated more of the land than other tenure classes, ranging from 45 percent in the cotton–wheat area to 76 percent in the northern range area. In contrast, the highest percentage of land in the five areas that was operated by tenants was 31 percent in the wheat–corn area; the highest percentage of land operated by full owners was 29 percent in the cotton–wheat area. Part owners outnumbered both full owners and tenants in three areas and, in all areas, farms operated by part owners were larger than those operated by full owners or tenants.

The experience of part owners shows that renting is an important means of acquiring additional land. Renting offers also the advantages of sharing risks with the landlord and of increasing flexibility of farm operations, in that the size of the farm or the location of the tracts that make up the farm may be changed more easily than when the operator owns all the land he operates. Problems of acquiring and retaining control of land may accompany these advantages. These problems are probably most serious for those farmers who cannot, without great difficulty, adapt their farm operations to changes either in the amount of land used or in the relative location of tracts operated.

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Of the total land area of the Great Plains, 91 percent is in farms.[2] A percentage distribution of the uses of land in the region's farms by tenure of the farm operator, as determined by the survey, is shown in figure 4.

## Nonirrigated Cropland and Rangeland

Nonirrigated cropland combined with permanent hay and pasture accounted for a major part of all land in farms in the region, ranging from 72 percent in the winter wheat area to 93 percent in the northern range area (table 9). Most of the remaining land was irrigated land and idle cropland; use of cropland for pasture and other uses of farmland were comparatively unimportant.

Only 14 percent of the land in the northern range area was reported as cropland; in the other areas, half or more of all land in farms was reported as cropland. This included nonirrigated cropland, irrigated cropland, cropland used for pasture, and idle cropland. In all areas, most of the cropland was nonirrigated; the highest average acreage of nonirrigated cropland per farm reporting—370 acres—was in the spring wheat area. Farmers in the wheat-corn and cotton–wheat areas reported the smallest average acreage of nonirrigated cropland per farm reporting—200 acres (table 10).

The percentage of land classed as permanent hay and pasture ranged from 35 percent of the land in farms in the spring wheat area to 84 percent in the northern range area. The average acreage per farm reporting ranged from 180 acres

[2] U.S. Bureau of the Census. U.S. census of agriculture, 1954. The remaining 9 percent of the total land area is made up of roads, cities, forests, military reservations, grazing lands under Government permit, and lands in Indian reservations not allotted to individual Indians.

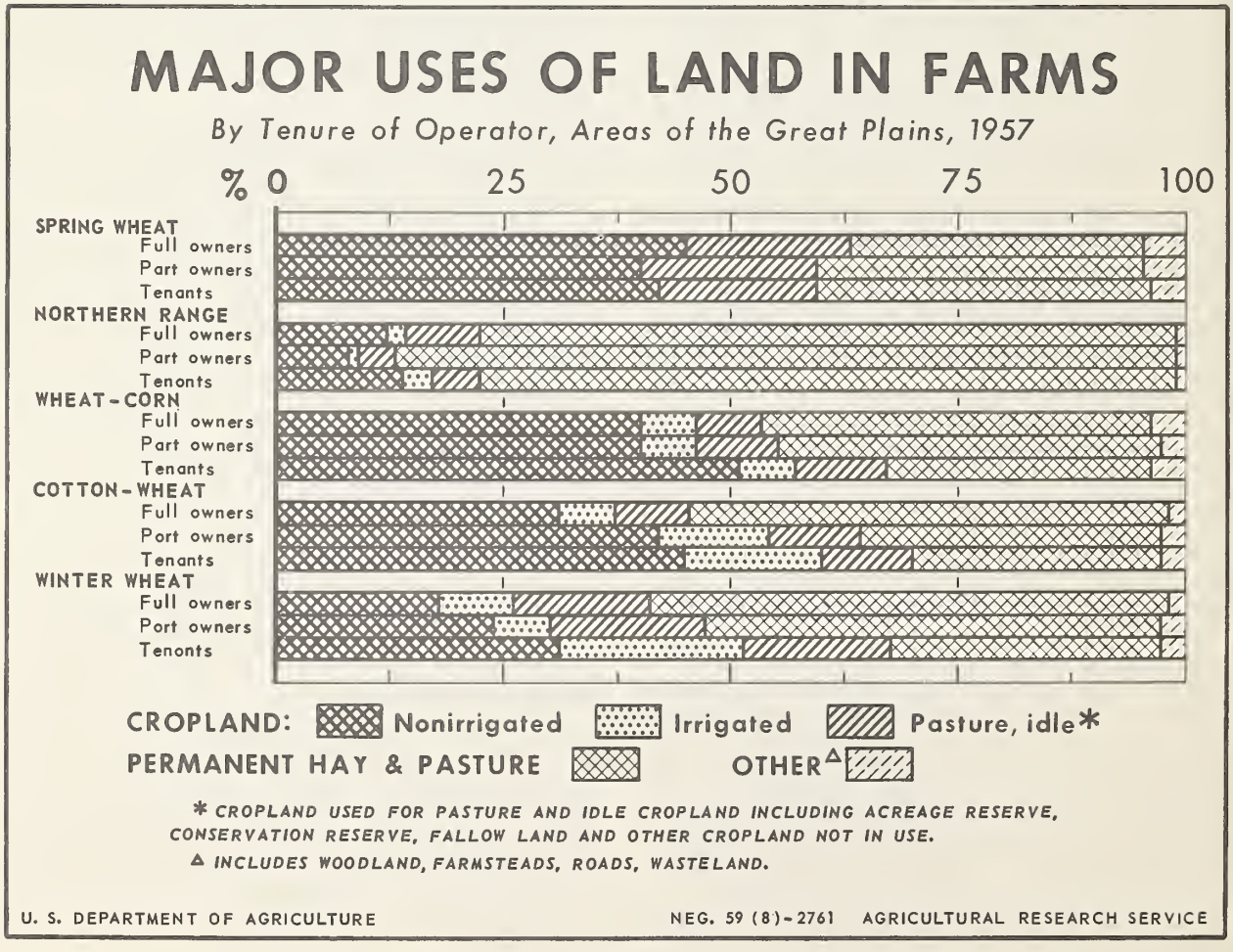


Figure 4

TABLE 9.—USES OF LAND IN FARMS AND RANCHES: *Percentage distribution by major use, areas of the Great Plains, 1957* [1]

| Land use | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Cropland: | | | | | |
| Nonirrigated | 42 | 9 | 44 | 40 | 24 |
| Irrigated | (2) | 1 | 6 | 11 | 9 |
| Cropland for pasture | 1 | (2) | 1 | 1 | 1 |
| Idle cropland [3] | 17 | 4 | 7 | 8 | 16 |
| Total cropland | 60 | 14 | 58 | 60 | 50 |
| Permanent hay and pasture | 35 | 84 | 38 | 37 | 48 |
| Other land [4] | 5 | 2 | 4 | 3 | 2 |
| Total land use | 100 | 100 | 100 | 100 | 100 |

[1] As reported by farm operators reporting on all land uses, including operators reporting zero.
[2] Less than 0.5 percent.
[3] Includes land in acreage reserve, conservation reserve, fallow land, and idle cropland.
[4] Includes woodland, farmsteads, roads, wasteland, and so on.

in the wheat–corn area to 2,250 acres in the northern range area.

## Irrigated Land

Irrigated land is found throughout the Great Plains, but it does not account for a large share of the farmland in the region. Important irrigation systems are found in areas such as the High Plains of Texas, where wells are the source of water, and in some river valleys of the region. Throughout most of the region, however, a supply of water adequate for irrigation has not been developed. Other factors that bear on the feasibility of developing irrigation systems in the region are the quality of water that is available, the characteristics of soils and terrain, and the length of the growing season.

The highest proportions of irrigated land were reported in the cotton–wheat and winter wheat areas, where 11 and 9 percent, respectively, of the land in farms was irrigated (table 9). The percentage of operators reporting irrigated land was substantially higher in the winter wheat area than in any of the other areas. In the winter wheat area, 40 percent of the farms had some irrigated land (table 10). This was at least twice the percentage of farmers in three other areas who had irrigated land. The average acreage irrigated on farms with irrigation was highest in the cotton–wheat areas, where 250 acres were reported. This was the only area in which the average acreage reported for irrigated land exceeded that reported for nonirrigated cropland. Cotton is the chief irrigated crop in these areas, although grain sorghums, wheat, alfalfa, and some specialty crops are important irrigated crops also.

Well irrigation has increased greatly in the High Plains and the present rate of use of ground water exceeds the rate of recharge. Because of heavy use, the water table in the irrigated area has declined and well yields have been reduced. These declines are met by several measures, such as drilling new wells, lowering pumps, pumping more hours, and farming so as to make more efficient use of water. These measures increase costs, however, and a continued decline in the water table could bring about a reduction in the acreage irrigated or in the amount of water applied per acre.[3]

The wheat–corn area, with 6 percent of the land reported as irrigated, was third in importance in terms of relative acreage of irrigated land. Nineteen percent of the farmers in this area reported some irrigated land; they averaged 130 acres of such land. Irrigation is found throughout the area and major irrigation systems are located in parts of Nebraska and Kansas. The principal crops irrigated are row crops, hay, and pasture.

Irrigation was least common in the two northern areas. Twenty-one percent of the farmers in

TABLE 10.—MAJOR USES OF LAND IN FARMS: *Average acreage per farm and percentage of farm operators reporting, areas of the Great Plains, 1957*

AVERAGE ACREAGES PER FARM OPERATOR REPORTING LAND USE

| Land use | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Acres* | *Acres* | *Acres* | *Acres* | *Acres* |
| Nonirrigated cropland | 370 | 280 | 200 | 200 | 300 |
| Irrigated cropland | 100 | 120 | 130 | 250 | 200 |
| Cropland used for pasture | 60 | 90 | 20 | 50 | 60 |
| Idle cropland [1] | 200 | 190 | 60 | 80 | 220 |
| Permanent hay and pasture | 350 | 2, 250 | 180 | 210 | 570 |
| Other land [2] | 40 | 40 | 20 | 10 | 20 |

PERCENTAGE OF FARM OPERATORS REPORTING LAND USE

| | | | | | |
|---|---|---|---|---|---|
| Nonirrigated cropland | *Percent* 98 | *Percent* 77 | *Percent* 96 | *Percent* 88 | *Percent* 72 |
| Irrigated cropland | 1 | 21 | 19 | 20 | 40 |
| Cropland used for pasture | 16 | 14 | 16 | 9 | 13 |
| Idle cropland [1] | 78 | 56 | 56 | 44 | 67 |
| Permanent hay and pasture | 90 | 92 | 90 | 81 | 76 |
| Other land [2] | 96 | 96 | 98 | 91 | 92 |

[1] Includes land in acreage reserve, conservation reserve, fallow land, and other idle cropland.
[2] Includes woodland, farmsteads, roads, wasteland, and so on.

[3] HUGHES, WM. F., and others. ECONOMICS OF WATER MANAGEMENT FOR COTTON AND GRAIN SORGHUM PRODUCTION, HIGH PLAINS. Texas Agr. Expt. Sta. Bul. 931, 17 pp. May 1959.

the northern range area reported an average of 120 acres of irrigated land, but this acreage accounted for only 1 percent of all land in the area. Irrigated land in the northern range area is found mainly in valleys, and rivers are the primary source of irrigation water. Important irrigated crops include sugar beets, grains, and hay.

Only 1 percent of the farmers in the spring wheat area reported irrigated land and less than 1 percent of the land in the area was irrigated.

### Idle Cropland

Idle cropland was of greatest relative importance in the spring wheat and winter wheat areas, where 17 and 16 percent, respectively, of all land in farms was reported as idle cropland. In the three remaining areas, not more than 8 percent of all land in farms was reported as idle cropland.

Land classed as idle cropland includes land in the Acreage Reserve and Conservation Reserve, fallow land, and other idle cropland. The Acreage Reserve accounted for more than half the idle cropland in all areas. The average number of acres in the Acreage Reserve ranged from 50 acres in the wheat–corn area to 190 acres in the spring wheat area. Participation in the Acreage Reserve Program ranged from half of the farm operators in the northern range area to a third in the cotton–wheat area. The acreage entered in the Conservation Reserve ranged from 80 acres in the wheat–corn area to 190 acres in the winter wheat area. Participation ranged from 9 percent of all farmers in the spring wheat and cotton–wheat areas to 3 percent in the wheat–corn area.

### Tenure and Land Use

Differences between tenure classes with respect to patterns of land use were greatest in the wheat–corn, cotton–wheat, and winter wheat areas. In the wheat–corn area, cropland made up a higher proportion of the land on tenant farms than on either part-owner or full-owner farms. In the cotton–wheat and winter wheat areas, the proportion of cropland was higher on tenant farms than on part-owner farms and higher on part-owner farms than on full-owner farms. In the northern range area, permanent hay and pasture made up a higher proportion of the land on part-owner than on full-owner or tenant farms. Tenants and full owners differed very little as to patterns of land use in that area. In the spring wheat area, the pattern of land uses was very similar for all tenure classes (fig. 4).

## Location of Land Operated

Many farms in the Great Plains consist of two or more separate tracts of land. Often, farmers cannot acquire adjoining tracts at the time they are seeking land. But in much of the region, farming practices adapt reasonably well to operation of scattered tracts of land and, unless tracts are too small or too widely scattered for efficient operation, management is often no more difficult and operating costs are little higher than they would be if the same acreage were included in one contiguous tract of land.

How land is used does much to determine whether it is feasible to operate separated tracts of land and also whether it is feasible for farm operators to separate their residences from their farm operations. Often, for example, the size of tracts and their location relative to other tracts operated are not of major importance in small-grain production. Limitations as to the size and location of tracts operated may be very important for grazing land.

### Residence of Operators

Residence on the farm operated was highest in the wheat–corn area, where 90 percent of the full owners, 94 percent of the part owners, and 91 percent of the tenants reported that they lived on the farms they operated (table 11). The lowest percentages of farm residence for each tenure class were reported by full owners in the cotton–wheat areas, with 79 percent, and by part owners and tenants in the spring wheat area, where 86 and 73 percent, respectively, reported that they lived on the farms they operated. In all areas, more part owners than either full owners or tenants lived on their farms.

Table 11.—Farm Operators Residing on Farms Operated: *Percentage by tenure of operator, areas of the Great Plains, 1957*

| Tenure of operator | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Full owners | 84 | 89 | 90 | 79 | 80 |
| Part owners | 86 | 91 | 94 | 89 | 87 |
| Tenants | 73 | 75 | 91 | 83 | 78 |
| All operators | 83 | 88 | 91 | 83 | 82 |

The percentage of all farmers who lived in towns ranged from an average of 15 percent in the cotton–wheat area to 7 percent in the wheat–corn area. Farmers who lived on other farms which they did not operate, and those with other residences, for instance, farmers who lived on the farm only during the work season or who visited the farm periodically throughout the year, accounted for the rest of the answers received. The percentage of all operators in these classes did not exceed 5 percent in any area.

TABLE 12.—SEPARATE (NONADJOINING) TRACTS IN FARMS: *Average number per farm, by tenure of operator, areas of the Great Plains, 1957*

| Tenure of operator | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Number* | *Number* | *Number* | *Number* | *Number* |
| Full owners | 1. 7 | 1. 5 | 1. 5 | 1. 4 | 1. 6 |
| Part owners | 2. 7 | 2. 4 | 2. 7 | 2. 7 | 3. 1 |
| Tenants | 2. 1 | 1. 7 | 1. 9 | 1. 9 | 1. 9 |
| All operators | 2. 3 | 2. 0 | 2. 1 | 2. 0 | 2. 1 |

## Number of Tracts Operated and Distance to Farthest Point on Farm

The average number of nonadjoining tracts of land per farm varied from 2 to 2.3 (table 12).[4]

The average distance to the farthest point on farms from the operating headquarters via the route actually traveled ranged from 4 miles in the wheat–corn area to 6.7 miles in the cotton–wheat and 8.9 miles in the winter wheat area (table 13). Distances were greater for part owners than for either full owners or tenants and were generally greater for tenants than for full owners.

## Operation of Land in Other Counties and in Other States

Only a small percentage of the farmers interviewed reported that they farmed land that was located in a nonadjoining county or in another State. Most of these farmers were part owners. Four percent of the part owners in the cotton–wheat area operated land that was located in a nonadjoining county; in the other areas, 2 percent or less of the part owners operated land in a nonadjoining county. Farm operations in another State were reported by 4 percent of the part owners in the northern range area and by 5 percent of the part owners in the winter wheat area. One percent or less of the part owners in the three remaining areas farmed land in another State. Five percent of the land farmed by part owners in the cotton–wheat and winter wheat areas was in a nonadjoining county or another State. In the remaining areas, 1 percent of the land farmed by part owners was in a nonadjoining county or another State (table 14).

TABLE 13.—*Average distance from operating headquarters to farthest point on the farm, by tenure of operator, areas of the Great Plains, 1957* [1]

| Tenure of operator | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Miles* | *Miles* | *Miles* | *Miles* | *Miles* |
| Full owners | 2. 9 | 3. 0 | 2. 7 | 3. 9 | 5. 8 |
| Part owners | 5. 2 | 8. 0 | 5. 6 | 11. 7 | 13. 5 |
| Tenants | 4. 8 | 3. 9 | 3. 4 | 4. 3 | 5. 2 |
| All operators | 4. 4 | 5. 8 | 4. 0 | 6. 7 | 8. 9 |

[1] Distance measured via the route actually traveled.

Not more than 1 percent of the tenants in any area operated land in a nonadjoining county or in another State, and 1 percent or less of all the land they operated was located in a nonadjoining county or another State. Two percent or less of the full owners farmed land in a nonadjoining county or in another State. In the cotton–wheat and winter wheat areas, 3 and 2 percent, respectively, of all land farmed by full owners was in a nonadjoining county or another State.

TABLE 14.—*Farm operations in nonadjoining counties or in other States by part owners, areas of the Great Plains, 1957*

| Characteristic of operation | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Part owners operating land in— | | | | | |
| Nonadjoining counties | *Percent* 1 | *Percent* 2 | *Percent* 2 | *Percent* 4 | *Percent* 1 |
| Other States | 0 | 4 | 0 | 1 | 5 |
| Percentage of all land operated by part owners that was in nonadjoining counties or in another State | 1 | 1 | 1 | 5 | 5 |

## Conclusions

Farm size and land use vary widely in the Great Plains, although some similarities in farm size and land use were found among areas of the Plains. With respect to average farm size, the smallest farms were found in the wheat–corn and cotton–wheat areas (430 and 450 acres, respectively); farms in the spring wheat and winter wheat areas were about twice as large (880 and 920 acres, respectively); and farms in the northern range area were considerably larger than farms in any other area (2,450 acres). With respect to land use, nonirrigated cropland was the major use of land in the spring wheat, wheat–corn, and cotton–wheat areas, where it included from 40 to 44 percent of the land in farms. Permanent hay and pasture was the chief use made of land in the northern range area, where it accounted for 84 percent of

[4] A tract was defined as an area of land separate from all other land operated with no reference to the size of the tract. Tracts touching only at a point, as at the corners of a section, were considered nonadjoining. Tracts separated only by a road were considered adjoining.

the land in farms. Land use in the winter wheat area was divided almost equally between all cropland uses and permanent hay and pasture.

Frequently, area differences in farm size and land use can be attributed to limitations of climate and soils. But other factors, such as the prices received for farm products, the technology of farming, development of irrigation, acreage restrictions on crops, and the tenure arrangements under which the land is operated, may also have important effects on the size of farms and the use of land in the region.

The percentage of irrigated land in the region is not large. Not more than 1 percent of the land in the spring wheat and northern range areas was irrigated. In the other three areas, from 6 to 11 percent of the land was irrigated.

A high percentage of all farmers interviewed lived on the farm operated. By area, farm residence was highest in the wheat–corn area; by tenure, part owners had the highest rate of farm residence.

Operation of land in nonadjoining counties or in other States was not common in the region; it was reported most frequently by part owners. The problems associated with acquiring and retaining control of land, which are particularly important if land is rented, may do much to limit the number of these farms.

# *Chapter 4.*—Farm Tenure in the Great Plains

Howard L. Hill

Many of the data obtained in the survey of Great Plains farmers are related to the tenure of the farm operator. It is through various tenure arrangements that farmers gain control over the use of land for farming; the length of time land can be used and the kind of decisions that can be made in the management of a farm often depend on the type of tenure arrangement under which land is held by the farm operator.

Farmers interviewed in the survey were grouped into the following tenure classes: Full owners own all the land they operate; part owners operate land they own and land they rent from others; tenants rent all the land they operate; and managers operate land for others, for which they receive wages or salary.

Two aspects of farm tenure are discussed in this chapter. First, the structure of farm tenure in the Plains and the tenure arrangements used by farm operators are described. Second, farmers' plans for changing their farm acreages, for retiring, or for seeking other employment are discussed, as are implications of these plans for future changes in the size of the region's farms.

## Farm Tenure

An important characteristic of the structure of farm tenure in the Great Plains is the large number and size of part-owner farms relative to tenant and full-owner farms. The differences between part owners and other tenure classes, with respect to the average size of farms and the percentage of farmers in each tenure class, were widest in the spring wheat, northern range, and winter wheat areas and least in the wheat–corn and cotton–wheat areas.

The importance of part ownership in the region is due chiefly to the incentives for farmers to operate large acreages. These incentives arise from both the natural and the economic conditions that affect production. In much of the region, opportunities to increase output on a given acreage are greatly limited because of low rainfall or because of soil and terrain restrictions on land use. Also, a large acreage is often required to permit efficient use of modern equipment and available family labor.

By renting some of the land they operate, farmers can invest in other resources necessary to increase the size and efficiency of their operations. This is important in the Great Plains. The average land investment of farms and ranches in the region ranged from about $39,000 in the spring wheat area to nearly $80,000 in the winter wheat area and made up more than 70 percent of the value of assets used on farms.

Renting also gives farmers greater flexibility in management and permits sharing some price and production risks with landowners. Major problems of acquiring and retaining control of land often accompany these advantages, however.

More than half of the farmers in the spring wheat and northern range areas were part owners. The distribution of tenure classes was comparatively even in the wheat–corn and cotton–wheat areas and somewhat less so in the winter wheat area. The percentage of farmers who were part owners ranged from 54 percent in the northern

TABLE 15.—FARM OPERATORS: *Percentage distribution by tenure of operator, areas of the Great Plains, 1957*

| Tenure of operator | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Full owners | 31 | 32 | 26 | 36 | 29 |
| Part owners | 51 | 54 | 36 | 34 | 42 |
| Managers | (1) | 1 | 1 | (1) | (1) |
| Tenants | 18 | 13 | 37 | 30 | 29 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] Less than 0.5 percent.

range area to 34 percent in the cotton–wheat area. The percentage of tenants ranged from 37 percent in the wheat–corn area to 13 percent in the northern range area. The percentage of full owners varied least between areas, ranging from 36 percent in the cotton–wheat area to 26 percent in the wheat–corn area (table 15).

Part owners operated larger acreages than either full owners or tenants; in some areas, their farms averaged more than twice the acreage of full-owner or tenant farms (table 16). The average acreage of part-owner farms ranged from 3,600 acres in the northern range area to 570 acres in the wheat–corn area. Tenant farms were larger than full-owner farms in all except the winter wheat area. The average acreage of farms operated by tenants ranged from 1,240 acres in the northern range area to 360 acres in the wheat–corn area and the average acreage of farms operated by full owners ranged from 980 acres in the northern range area to 350 acres in the wheat–corn area.

In all areas, part owners operated a larger share of the land in farms than either full owners or tenants. In three areas—spring wheat, northern range, and winter wheat—between half and three-fourths of the land was operated by part owners. Part-owner farms in these areas were both more numerous and larger than either full-owner or tenant farms. In the wheat–corn and cotton–wheat areas, where the distribution of tenure classes was more even, slightly less than half the land was operated by part owners. The percentage of land operated by part owners ranged from 76 percent in the northern range area to 45 percent in the cotton–wheat area. Full owners operated more land than tenants in four areas; the percentage of land in full-owner farms ranged from 29 percent in the cotton–wheat area to 12 percent in the northern range area. The percentage of land in tenant farms ranged from 31 percent of the land in the wheat–corn area to only 6 percent in the northern range area (fig. 5).

TABLE 16.—LAND IN FARMS: *Average size of farm, by tenure of operator, areas of the Great Plains, 1957* [1]

| Tenure of operator | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Acres* | *Acres* | *Acres* | *Acres* | *Acres* |
| Full owners | 580 | 980 | 350 | 360 | 650 |
| Part owners | 1,090 | 3,600 | 570 | 590 | 1,360 |
| Tenants | 780 | 1,240 | 360 | 380 | 560 |
| All operators | 880 | 2,450 | 430 | 450 | 920 |

[1] Excludes grazing land under Government permit and land in Indian reservations not allotted to individual Indians.

Manager-operated farms included in the sample had relatively large acreages. Because there were so few of these farms, the data relating to them were omitted from much of the report. In the northern range area, 1 percent of the farmers interviewed were managers and they operated 6 percent of the land; in the winter wheat area, less than 1 percent of the farmers interviewed were managers but they operated 5 percent of the land. In the three remaining areas, 1 percent or fewer of the farmers interviewed were managers and they operated 1 percent or less of the land.

## Land Owned by Farmers

About 91 percent of the total land area of the Great Plains is in farms, and a large share of this land is privately (rather than publicly) owned. Of the farmland reported in the survey, slightly more than half was owned by the farm operators themselves. The average acreage owned by all owner-operators, including both part and full owners, ranged from 350 acres in the cotton–wheat area to 1,700 acres in the northern range area. Part and full owners varied little as to the amount of land owned except in the northern range area, where the average acreage owned by part owners was twice that owned by full owners.

### *How Ownership Was Attained*

Individuals become landowners in several ways, including purchase, inheritance, gift, homesteading, and combinations of these methods. Purchasing was the principal method by which farm operators had acquired ownership of land, both in terms of the amount of land owned and the number of landowners.

In the five areas of the Great Plains, from 70 to 88 percent of the land owned by farm operators had been purchased and from 7 to 15 percent of the land they owned had been inherited. The rest was acquired by a combination of purchase and inheritance, as gifts, by homesteading, or through other methods not classified (table 17). The percentage of operators who had purchased some or all of the land they owned ranged from 83 to 92 percent in the five areas. Between 13 and 23 percent of the owners had inherited land and from 11 to 18 percent had employed one or more of the other methods listed to gain ownership of land (table 18).

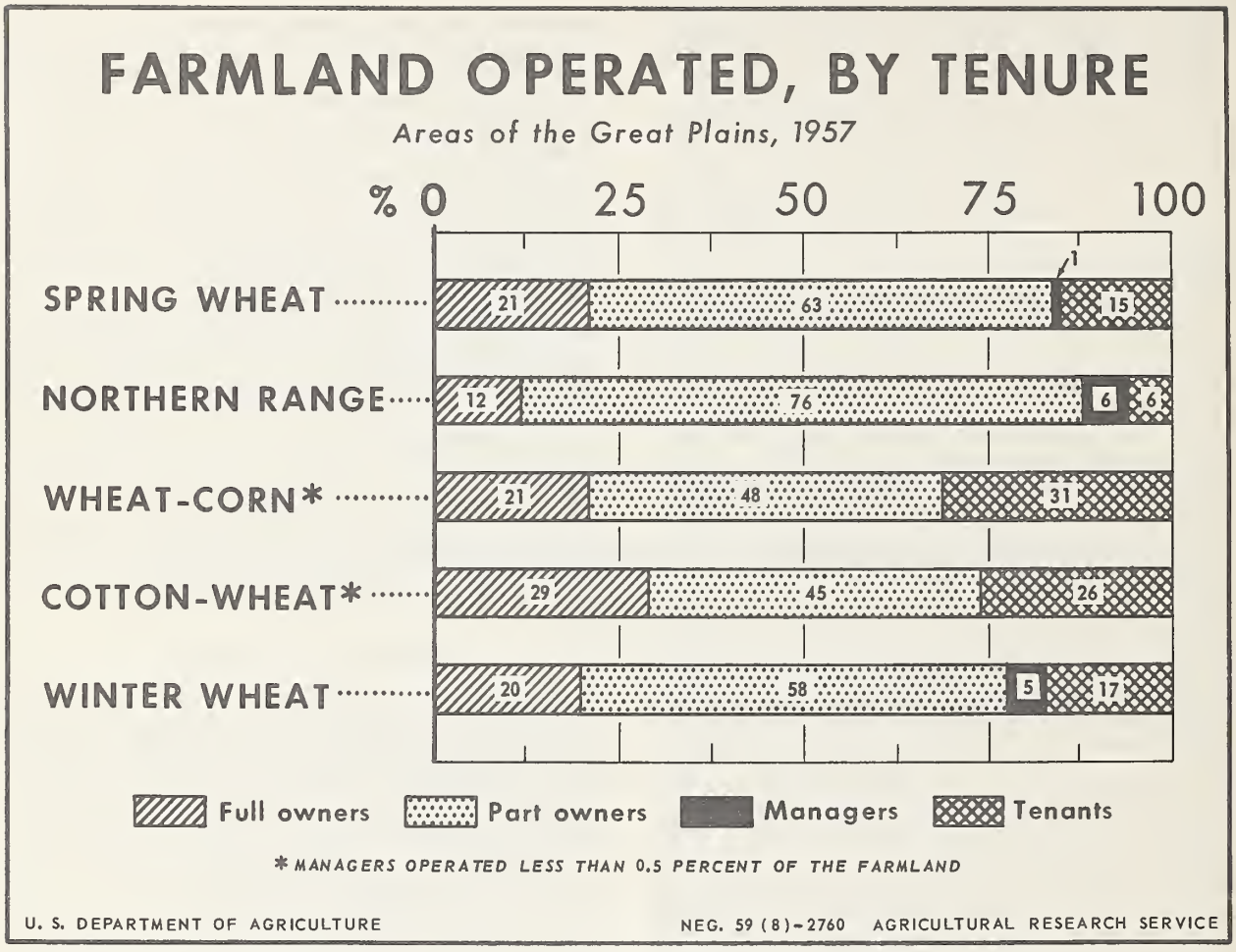


FIGURE 5

TABLE 17.—LAND OWNED BY FARM OPERATORS: *Percentage distribution of acreage owned, by method of acquiring ownership, areas of the Great Plains, 1957* [1]

| Method by which land was acquired | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Purchase | 88 | 85 | 70 | 80 | 84 |
| Inheritance | 7 | 7 | 15 | 13 | 9 |
| Part purchase, part inheritance | 3 | 3 | 12 | 5 | 4 |
| Gift | 1 | 1 | 1 | 1 | 1 |
| Homestead | 1 | 2 | 0 | 0 | 1 |
| All other | (2) | 2 | 2 | 1 | 1 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] Excludes land owned by managers and tenants.
[2] Less than 0.5 percent.

TABLE 18.—LAND OWNED BY FARM OPERATORS: *Percentage of farm operators owning land, by method of acquiring ownership, areas of the Great Plains, 1957* [1]

| Method by which ownership was acquired [2] | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Purchase | 92 | 92 | 83 | 86 | 90 |
| Inheritance | 15 | 13 | 23 | 18 | 21 |
| Part purchase, part inheritance | 5 | 3 | 12 | 8 | 7 |
| Gift | 2 | 3 | 4 | 2 | 3 |
| Homestead | 3 | 9 | 0 | 0 | 2 |
| All other | 2 | 3 | 1 | 1 | 1 |

[1] Excludes managers and tenants reporting land owned.
[2] Some operators acquired land by more than one method.

*Mineral Rights*

Much of the Nation's known oil and gas reserves are in the Great Plains States, and geologists estimate that a great deal more remains to be discovered. As a general rule, mineral rights have relatively little value until there is exploration for, or discovery of, oil or minerals in an area. At that time, the mineral rights usually increase in value and often they are separated wholly or in part from the surface rights of land through

a mineral lease or mineral deed, if they have not already been reserved or sold by a previous owner.

While landowners are primarily interested in the value that these rights may add to their land, they are concerned also with problems that arise when the surface and subsurface rights of land are separated. Often, it is difficult to locate a buyer for land if part or all of the mineral rights have been transferred or reserved, and lenders are interested in the kinds of rights that are attached to land in order to evaluate it as security for loans. Mineral owners are affected also by separation of surface and subsurface rights to land. Frequently, mineral rights are divided among several owners, each possessing an undivided fractional interest in the mineral rights to each acre in a tract rather than all of the rights in specific acres. When the number of mineral owners is great, both surface and mineral owners may suffer financially. Abstracting costs may absorb a significant proportion of the sale price of land, and oil or gas leases may be difficult to obtain because of the many mineral owners who must be contacted.[5]

Information was obtained in the survey regarding the extent to which mineral rights had been reserved by former owners and whether the present owner-operators had sold or leased any of the mineral rights in their land. In four areas, about half of the owner-operators did not own all of the mineral rights to their land. In the other area, the wheat–corn area, only 11 percent of the owner-operators did not own all the mineral rights to their land (table 19).

TABLE 19.—*Control of mineral rights on land owned by farm operators, areas of the Great Plains, 1957* [1]

| Item | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Farm operators who own land but do not own all mineral rights to their land [2] | 43 | 50 | 11 | 55 | 46 |
| Some or all rights reserved by a former owner | 40 | 42 | 10 | 50 | 43 |
| Some or all rights sold by present owner | 5 | 10 | 2 | 8 | 5 |
| Farmers who have granted a mineral lease on land they own | 42 | 34 | 16 | 61 | 66 |

[1] Includes operators of all tenure classes who owned land.

[2] Mineral rights may have been reserved by a former owner or sold by the present owner. Some owners reported both.

[5] PARCHER, L. A., SOUTHERN, J. H., and VOELKER, S. W. MINERAL RIGHTS MANAGEMENT BY PRIVATE LANDOWNERS. Great Plains Agr. Council Pub. No. 13, 32 pp. (1955).

In most instances in which owner-operators did not own all the mineral rights to their land, the rights had been reserved, partly or entirely, by a former owner. Relatively few of the present owner-operators had sold any of the mineral rights to their land; the percentages ranged from 10 percent of the owner-operators in the northern range area to 2 percent in the wheat–corn area. A few owner-operators in each area reported that some mineral rights in their land had been reserved by a former owner and also that they had sold mineral rights in their land.

Leasing of mineral rights was most prevalent in the areas in which oil production is important or interest in oil exploration is great. This includes parts of the spring wheat, cotton–wheat, and winter wheat areas where 42, 61, and 66 percent, respectively, of the owner-operators had some or all of their land under mineral leases. In the wheat–corn and northern range areas, 16 and 34 percent, respectively, of the owner-operators had land under mineral leases.

## Leasing Arrangements

More than two-thirds of all farmers interviewed in the region rented land either as part owners or as full tenants (table 15). The percentage of land rented by these farmers ranged from 39 percent of all land operated in the northern range area to 53 percent in the wheat–corn area.

In the wheat–corn and cotton–wheat areas, 58 and 60 percent, respectively, of the full tenants and part owners rented from one landlord. About half of the renters in the three remaining areas had one landlord. About one-fourth of the renters in all areas rented from two landowners, and the rest rented from three or more landowners.

Many leases were not written, as is shown by the following tabulation:

| *Area* | *Percentage of all leases that were not written (percent)* |
|---|---|
| Spring wheat | 57 |
| Northern range | 39 |
| Wheat–corn | 72 |
| Cotton–wheat | 70 |
| Winter wheat | 71 |

The lower percentage of oral leases in the spring wheat and northern range areas, relative to the other areas, can be attributed partly to the higher proportion of leases for publicly owned land in these two areas.

### *Type of Lease*

The crop-share lease was used most frequently in four areas, including about half to two-thirds of all types of leases. In the northern range area, 58 percent of the leases were cash leases (fig. 6).

Cash leases ranked second in frequency of use in the spring wheat, cotton–wheat, and winter wheat areas, including from 15 to 23 percent of all leases used in these areas. Crop-share-cash leases were second in importance in the wheat–corn area, where they made up 39 percent of all leases

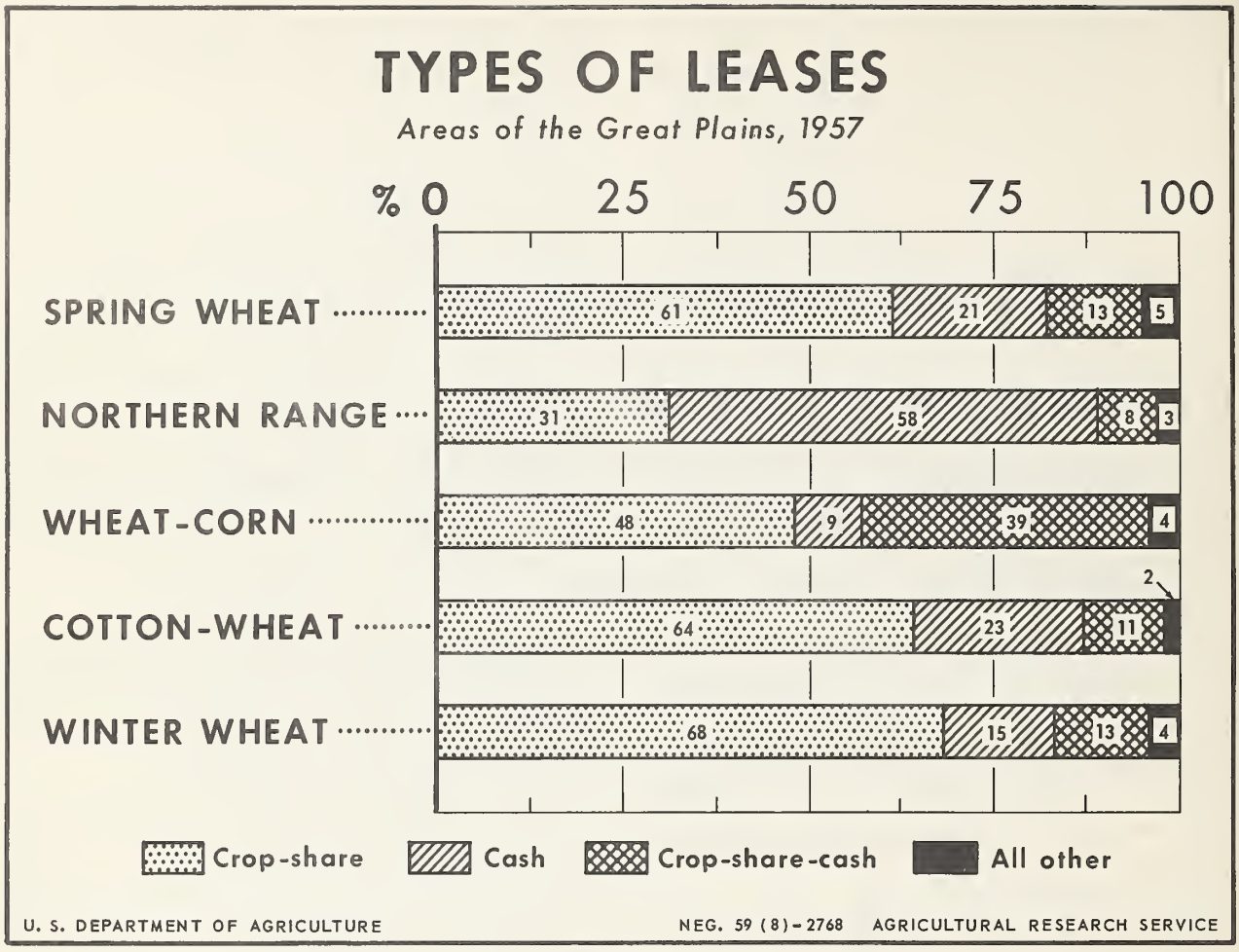


FIGURE 6

used. Crop-share leases were second in importance in the northern range area, where they made up 31 percent of all leases used.

Other types of leases were used infrequently and did not include more than 5 percent of the leases used in any area.

The distribution of leases by type generally follows the distribution of major land uses and type of farming in the region. Cash leases were most common in the northern range area, where much of the land was classed as permanent hay and pasture land. In the other areas, where much of the land was cropland, crop-share leases were most common. Crop-share-cash leases are used primarily for renting entire farms that include both cropland and pasture. These leases were important in the wheat–corn area where there are many livestock and general farms.

*Landlords*

Of five groups of landlords reported by renters, individuals were most numerous. They ranged from 59 percent of all landlords in the northern range area to 89 percent in the wheat–corn area (fig. 7). A third of the leases in the northern range area and a tenth of the leases in the spring wheat area were with Federal, State, or local governments. In the other areas, 3 percent or less of all leases were for publicly owned land. These data do not include Government permits for grazing land.

Not more than 3 percent of the landlords in any area were partners. Leasing of land from estates occurred most often in the cotton–wheat area, where estates held 12 percent of the leases. In the other areas, estates held between 5 and 8 percent of all leases. Not more than 2 percent of the leases in any area were held by corporations.

Approximately half of the noninstitutional landlords (individuals or partnerships) had operated the rented land at some previous time:

| Area | *Percentage of landlords who had previously operated the land* (percent) |
|---|---|
| Spring wheat | 47 |
| Northern range | 51 |
| Wheat–corn | 51 |
| Cotton–wheat | 54 |
| Winter wheat | 48 |

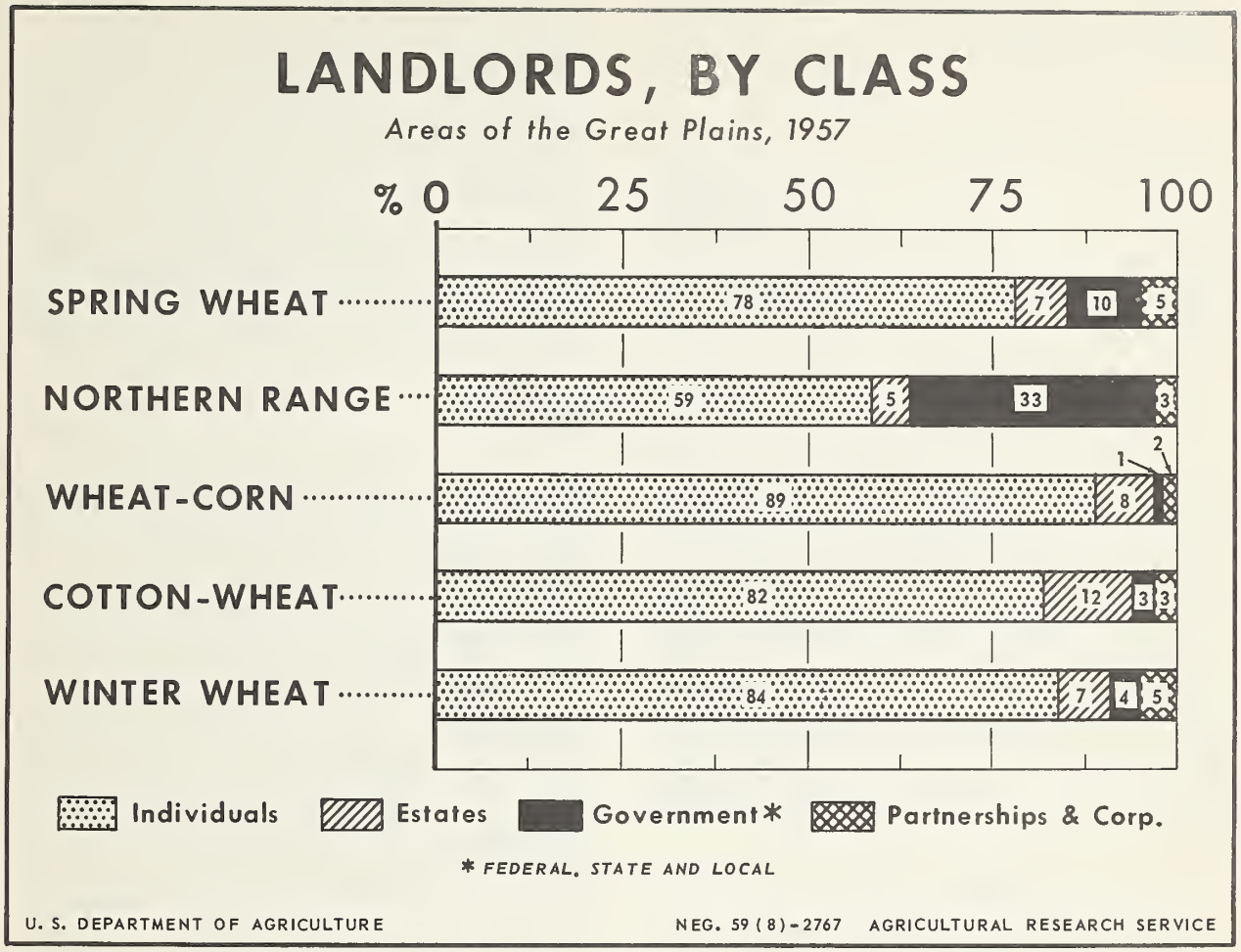


FIGURE 7

Retired farmers were the largest occupational group among the noninstitutional landlords; they made up from 21 to 29 percent of all landlords. Active farmers and housewives were next in importance as occupational groups. These three groups included more than half of the noninstitutional landlords in the region, ranging from 51 percent in the spring wheat area to 63 percent in the wheat–corn area. Other occupations of landlords included professional, laborer or clerical, business, retired nonfarmer, and some that were not specified.

*Landlords Related to Tenants*

Leasing from relatives was observed most often in the wheat–corn area, where 39 percent of all farm leases were with a parent or other relative; it was least common in the northern range area, where 18 percent of all leases were with relatives (table 20). More of the leases were with parents than with other relatives.

In areas in which competition for land to farm is great, family assistance is important in establishing farms of adequate size. But even if such assistance is not essential, significant advantages may be gained by renting from relatives, particularly from parents, in regard to such factors as access to land, security of tenure, provision of landlord resources, and sharing of costs and re-

TABLE 20.—*Percentage distribution of landlords, by type of landlord and relationship to renter, areas of the Great Plains, 1957*

| Type of landlord and relationship to renter | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Noninstitutional landlords | 81 | 60 | 90 | 84 | 87 |
| No relation | 52 | 42 | 51 | 53 | 57 |
| Parent | 15 | 10 | 24 | 17 | 17 |
| Other relative | 14 | 8 | 15 | 14 | 13 |
| Institutional landlords [1] | 19 | 40 | 10 | 16 | 13 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] Includes estates, corporations, and Federal, State, and local governments.

turns. Leasing arrangements within families are often used also as a step in the transfer of farms between generations.

### Capital Supplied by Partners

The percentage of farmers with partners was as follows:

| Area | Percentage of farmers reporting a partner (percent) |
|---|---|
| Spring wheat | 35 |
| Northern range | 26 |
| Wheat–corn | 28 |
| Cotton–wheat | 15 |
| Winter wheat | 24 |

Partners provided a comparatively small share of all capital used on farms in the region. The share of farm capital owned by partners was highest in the northern range area, where it varied from 11 percent of the farm capital on full-owner farms to 3 percent on tenant farms, and was lowest in the cotton–wheat area, where partners owned 5 percent or less of the farm capital.

Many of the partnerships were family arrangements. Often, they were similar to "father-son" leasing arrangements and were formed for similar purposes, that is, to pay family labor, to provide financial assistance to young farmers, or to facilitate the transfer of farms between generations.

## Farm Enlargement

Farmers in the Great Plains use several methods to obtain land. Some of them are discussed in the preceding section. Their success in using these methods of obtaining land depends to a large extent upon the amount of land made available by the death, retirement, or migration of other farmers, and upon the number of other established and beginning farmers who are also trying to obtain land. The lack of sufficient land to permit enlargement of existing farms and to fulfill the land needs of beginning farmers as well can have important effects on land prices and the terms of land sales. Also, if competition for land to rent is strong, rental rates and lease terms may be influenced.

### Farmers' Plans

From a tabulation of farmers' plans for the next 2 or 3 years, estimates were made of the amount of land that would be available and the farm enlargement that would be possible if farmers who planned to increase their acreage obtained this land.

Most of the farmers interviewed planned to continue to farm the same acreage for the next 2 or 3 years. The percentage who planned to do so ranged from 60 percent of all farm operators in the cotton–wheat area to 72 percent in the wheat–corn area. Farmers who planned to increase their farm acreage were the second largest group, ranging from 16 percent of all farm operators in the wheat–corn area to 22 percent in the spring wheat and cotton–wheat areas. These two groups of farmers—those who planned to continue farming with the same acreage and those who planned to increase their acreage—included most of the farmers in the five areas, ranging from 82 percent in the cotton–wheat area to 90 percent in the spring wheat area (table 21).

Other plans were to continue farming but with a reduced acreage, to retire, or to seek part- or full-time nonfarm employment. Of these plans, retiring and seeking part-time nonfarm employment were reported most often, including up to 7 percent of the replies in some areas. Plans to decrease farm acreage, to seek full-time nonfarm employment, or other plans that were not specified were reported by not more than 3 percent of the farmers in any area.

Within each area, tenure classes varied with respect to their plans. The greatest difference was in the percentage who planned to increase their farm acreage in the next few years. A higher percentage of tenants than part owners and a higher percentage of part owners than full owners planned to increase their farm acreage. The percentage of full owners who planned to acquire more land ranged from 7 percent in the wheat–corn area to 14 percent in the spring wheat and cotton–wheat areas. The percentage of part owners who planned to acquire more land ranged from

TABLE 21.—EMPLOYMENT PLANS OF FARM OPERATORS FOR THE NEXT 2 OR 3 YEARS: *Percentage distribution of all farm operators, by type of employment plan, areas of the Great Plains, 1957*

| Employment plan | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| Continue farming or ranching with— | | | | | |
| No change in acreage | Percent 68 | Percent 63 | Percent 72 | Percent 60 | Percent 70 |
| Increase in acreage | 22 | 20 | 16 | 22 | 17 |
| Decrease in acreage | 2 | 3 | 3 | 3 | 3 |
| Total, farming or ranching plans | 92 | 86 | 91 | 85 | 90 |
| Retirement | 5 | 7 | 4 | 4 | 3 |
| Part-time nonfarm employment | 2 | 3 | 3 | 7 | 5 |
| Full-time nonfarm employment | 1 | 2 | 1 | 2 | 1 |
| Other [1] | (2) | 2 | 1 | 2 | 1 |
| Total, all plans | 100 | 100 | 100 | 100 | 100 |

[1] Includes operators not reporting plans.
[2] Less than 0.5 percent.

16 percent in the wheat–corn area to 24 percent in the cotton–wheat area. The percentage of tenants who planned to acquire more land ranged from 24 percent in the wheat–corn and winter wheat areas to 35 percent in the spring wheat area.

More than half of the farmers who planned to increase the acreage they farmed expected to obtain it by the same type of tenure arrangement they were presently using. That is, most tenants planned to rent the additional land they expected to acquire and most full owners planned to buy it. In the spring wheat and northern range areas, more part owners planned to buy additional land than planned to rent it and in the other areas more of them planned to rent land than planned to buy it. A few farmers in all tenure classes planned to do both, but no consistent pattern between tenure classes or between areas was evident.

In general, more full owners than either part owners or tenants were planning to continue to farm the same acreage for the next few years. More part owners than either full owners or tenants planned to decrease their farm acreage. Variation between tenure classes with respect to this item was small, as not more than 4 percent of the part owners in any area planned to reduce their farm acreages.

Retirement was planned most often by full owners in the northern range and wheat–corn areas, where 14 and 11 percent, respectively, planned to retire in the next 2 or 3 years. In other areas, 7 or 8 percent were planning to retire. Four percent or less of the part owners and 2 percent or less of the tenants planned to retire within that time.

Plans to seek part-time nonfarm employment were most common for all tenure classes in the cotton–wheat and winter wheat areas, but variation between tenure classes in this respect was small. In the five areas, between 2 and 9 percent of the full owners, 1 and 4 percent of the part owners, and 1 and 7 percent of the tenants planned to seek part-time nonfarm employment.

With one exception, not more than 2 percent of the farmers in any area planned to seek full-time nonfarm employment. In the northern range area, 5 percent of the full owners were planning to seek full-time nonfarm employment in the near future.

## Land for Farm Enlargement

An estimate was made for each area of the total acreage operated by farmers who planned to retire or to obtain full-time nonfarm employment. This land is expected to be available for other farmers when the present operators leave agriculture. Their farms were estimated to include about 6 percent of the farmland in the northern range area and about 5 percent in the other areas. This assumes that the present operators farmed the average number of acres of their tenure class. If all this land were to be acquired by the farmers in each area who planned to acquire additional land, the average increase in their farm acreages would be as follows: [6]

| *Area* | *Average acreage increase* |
|---|---|
| Spring wheat | 210 |
| Northern range | 820 |
| Wheat–corn | 140 |
| Cotton–wheat | 100 |
| Winter wheat | 240 |

As these estimates do not allow for establishment of new farms, an estimate was made also of the total acreage that would be acquired by beginning farmers. It assumes that the number and tenure distribution of beginning farmers for a 3-year period would be the same as during the 3 years preceding the survey, and that beginning farmers would acquire the average acreages operated by farmers in their tenure classes at the time of the survey. This total acreage was subtracted from the total acreage operated by farmers who planned to retire or leave agriculture. If the rest were acquired by the farmers in each area who planned to acquire additional land, the average increase in their farm acreages would be as follows:

| *Area* | *Average acreage increase after land for new farms is subtracted* |
|---|---|
| Spring wheat | 90 |
| Northern range | 590 |
| Wheat–corn | 10 |
| Cotton–wheat | 30 |
| Winter wheat | 100 |

## Capacity for Additional Land

The farmers interviewed were asked how many additional acres they could farm with their present labor and equipment. The total additional acreage that could have been farmed amounted to about a fourth of the total farm acreage in the northern range and cotton–wheat areas and about a fifth of the total farm acreage in the other areas. The percentage of farmers in each area who could farm more land and the additional acreage they felt they could handle was as follows:

| Area | Percentage of farmers who could farm more land | Average additional acreage they could farm |
|---|---|---|
| | *Percent* | *Acres* |
| Spring wheat | 48 | 330 |
| Northern range | 51 | 1,340 |
| Wheat–corn | 40 | 190 |
| Cotton–wheat | 47 | 260 |
| Winter wheat | 44 | 450 |

[6] This acreage does not include land from farms on which the operators planned to seek part-time nonfarm employment or to decrease their farm acreage. Nor was any estimate made of the land that would become available as a result of the operators' deaths. No information was obtained regarding farmers' plans to enter land in the Soil Bank, but it is likely that they considered the program when making plans to retire, to seek nonfarm employment, or to continue farming.

In all areas, the average additional acreage that farmers said they could operate exceeded the acreage expected to be available for farm enlargement, even before land requirements of beginning farmers were taken into account. Also, the percentage of farmers who felt that they could farm additional land with their present labor and equipment was more than twice the percentage of those who were planning to acquire additional land in the near future.

These findings are significant for both established farmers and young men who may begin farming. When farmers have equipment and labor that are not fully utilized, they have a strong incentive to acquire more land in order to increase total volume of production and reduce average costs of production. Under these conditions, competition for land could be strong, with important effects on land prices, terms of sales, lease terms, and rents. In turn, these effects would bear upon farmers' plans to acquire additional land and, in a larger setting, upon farmers' decisions to retire or leave farming, as well as upon the decisions of young men to begin farming.

## Conclusions

An important characteristic of the structure of farm tenure in the Great Plains is the large number and size of part-owner farms, relative to those operated by full owners and tenants. Farmers in the region have strong incentives to increase their farm acreages and many rely on part ownership as a means of obtaining land. In all areas, part owners farmed a larger share of the land than either full owners or tenants; in three areas, part owners farmed between one-half and three-fourths of the land.

About half of the land in farms was owned by the farm operators. Most of this land had been purchased. Inheritance ranked second in importance as a means of obtaining ownership of land.

In all areas of the Great Plains in which oil is produced or in which there is exploration for oil, it was fairly common to find that former owners had reserved some or all of the mineral rights to the land. Few of the present owners had sold any mineral rights they owned; however, many had some or all of their land under a mineral lease.

More than two-thirds of the farmers in the region rented land, either as part owners or as tenants. About half of the renters leased from more than one landlord. Many farmers leased land from parents or other relatives; the proportion ranged from 18 percent of the farmers in the northern range to 39 percent in the wheat–corn area. Crop-share leases were used most often in four areas; in the northern range area, where much of the land is used for grazing, cash leases were used most often.

More than 85 percent of all farmers interviewed planned to continue to farm or ranch for the next few years. One-third or less of the tenants, one-fourth or less of the part owners, and not more than one-seventh of the full owners planned to increase their acreages in the near future. In all areas, more farmers were planning to increase their farm acreages than were planning to retire or obtain full-time nonfarm employment.

The acreage expected to be available for farm enlargement was estimated and compared with the additional acreage that farmers could handle with their present labor and equipment. In all areas, less land was expected to be made available through farmers' retirement or migration than the remaining farmers would be able to operate with their present labor and equipment. This finding is significant for all farmers in the region, but it is probably most significant for beginning farmers and others in a weak financial position, who are often greatly handicapped in trying to obtain farmland.

# *Chapter 5.*—The Income of Great Plains Farmers

Russell W. Bierman

In the Great Plains, farm income may change sharply from year to year with changes in rainfall and yields. Income also varies widely among individual farmers. Some operators have large incomes even in drought years, but many farmers have cash incomes from all sources of less than $1,000 per year in favorable years. The income of an individual farmer reflects prices and weather, the amount of capital he uses in farming, and the type of farming in his area.

This chapter is intended to: (1) Show the amounts of gross and net income received by farmers; (2) analyze variations in amounts of income by tenure of the farmer and by value of farm products sold; and (3) analyze the major sources of farm and nonfarm income of farmers.

The data obtained in the Great Plains Survey on farm income and sales of farm products are for 1956 and are for cash income only. Net farm income in 1956 in the 10 Great Plains States was lower, because of drought, than in any year from 1950 to 1958 (table 22).

Table 22.—*Farm income in the 10 Great Plains States, 1950–58* [1]

| Year | Cash receipts from farm marketings | Realized net farm income [2] | Total net farm income [3] |
|---|---|---|---|
| | *Million dollars* | *Million dollars* | *Million dollars* |
| 1950 | 6, 914. 2 | 2, 972. 1 | 3, 282. 8 |
| 1951 | 7, 771. 5 | 3, 178. 9 | 3, 579. 0 |
| 1952 | 7, 689. 2 | 3, 140. 6 | 3, 214. 8 |
| 1953 | 6, 691. 9 | 2, 640. 7 | 2, 484. 5 |
| 1954 | 6, 684. 8 | 2, 487. 1 | 2, 526. 9 |
| 1955 | 6, 321. 0 | 2, 071. 9 | 2, 013. 4 |
| 1956 | 6, 367. 7 | 2, 263. 0 | 1, 860. 5 |
| 1957 | 5, 987. 8 | 1, 757. 9 | 2, 549. 2 |
| 1958 | 8, 183. 5 | 3, 130. 9 | 3, 601. 8 |

[1] Includes North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Montana, Wyoming, Colorado, and New Mexico.

[2] Realized net farm income is the sum of cash receipts from farm marketings, Government payments, value of home consumption of products produced on the farm, and gross rental value of farm dwellings less farm production expenses (including depreciation of buildings and machinery).

[3] Total net farm income is realized net farm income less decreases or plus increases in farm inventories of all crops and livestock on farms except crops under CCC loan.

U.S. Agricultural Marketing Service, Farm Income Situation. U.S. Agr. Mktg. Ser. FIS–175, 1959, pp. 22–29.

## Total Cash Receipts From Farming

### Amount of Receipts

Cash receipts from farm marketings in the Great Plains fluctuated widely in the 1950's because of weather and price changes. In the 10 Plains States, receipts amounted to $7,772 million in 1951, but were only $6,368 million in 1956, and $5,988 million in 1957 (table 22). In 1958, however, total marketings amounted to $8,184 million, the highest reached in the 1950–58 period. Realized net farm income, which does not reflect changes in farm inventories, followed a similar pattern and dropped by about 45 percent from 1951 to 1957. Total net farm income, including changes in inventories, dropped from $3,579 million in 1951 to $1,860 million in 1956; it rose to $2,549 million in 1957 and $3,602 million in 1958 because of the better crops harvested in those years.

Many Great Plains farmers have incomes so low that their opportunities for financial progress from farming are very limited. In 1956, for example, the proportion of farms with cash farm receipts of less than $2,500 ranged from 11 percent in the spring wheat area to 32 percent in the cotton–wheat area. The proportion of farms with cash farm receipts of less than $5,000 ranged from 52 percent in the cotton–wheat area to 32 percent in the spring wheat area. But some farmers reported $25,000 or more in cash farm receipts; the proportion ranged from 3 percent in the spring wheat area to 12 percent in the winter wheat area (table 23).

Table 23.—Cash Farm Receipts: *Percentage distribution of farm operators, by amount of total cash farm receipts, areas of the Great Plains, 1956*

| Cash farm receipts [1] | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Under $2,500 | 11 | 20 | 15 | 32 | 18 |
| $2,500 to $4,999 | 21 | 25 | 29 | 20 | 18 |
| $5,000 to $7,499 | 24 | 15 | 20 | 12 | 14 |
| $7,500 to $9,999 | 16 | 11 | 12 | 9 | 9 |
| $10,000 to $14,999 | 15 | 13 | 12 | 13 | 14 |
| $15,000 to $19,999 | 7 | 6 | 6 | 5 | 9 |
| $20,000 to $24,999 | 3 | 3 | 2 | 2 | 6 |
| $25,000 and over | 3 | 7 | 4 | 7 | 12 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] Includes receipts from sales of crops, livestock, and other farm products, Government payments, crop and hail insurance, and other income from the farm.

As shown in chapter 6 of this report, farmers in the Great Plains use assets of greater value in their operations, and own assets of greater value, than do farmers in most other parts of the country. But in the Great Plains as elsewhere, some farmers have small, uneconomic farm units which do not provide full employment for operator and family labor and from which little income can be obtained. Moreover, in a region as extensive as the Great Plains, each year some farmers have low incomes as a result of crop damage from adverse weather.

Variation between areas in average cash farm receipts in 1956 was small for four of the five Great Plains areas. Average cash farm receipts were $13,060 in the winter wheat area, but they ranged only from $8,590 to $8,900 in the other four areas (table 24). Differences between areas in average cash farm receipts had little relation to differences in the average values of assets used in farming, although the highest average total income and value of farm products sold were in the winter wheat area, which also had the highest average value of assets. (See chapter 6 of this report for discussion of farm assets.)

The lack of any direct relationship by areas between total farm receipts, or value of farm products sold, and assets used in farming can be ascribed largely to differences in types of farming. In the northern range area, where livestock ranching predominates, the amount of assets used is relatively high compared with the income produced. But in the spring wheat area, less capital is needed to produce about the same amount of farm income.

## Sources of Receipts

Crop and livestock sales made up the bulk of the 1956 cash farm income in the Great Plains (fig. 8). In the aggregate, Government payments, custom work, and miscellaneous farm income were not very important; they ranged from 7 percent of the total in the northern range area to 3 percent in the cotton–wheat area (table 25).

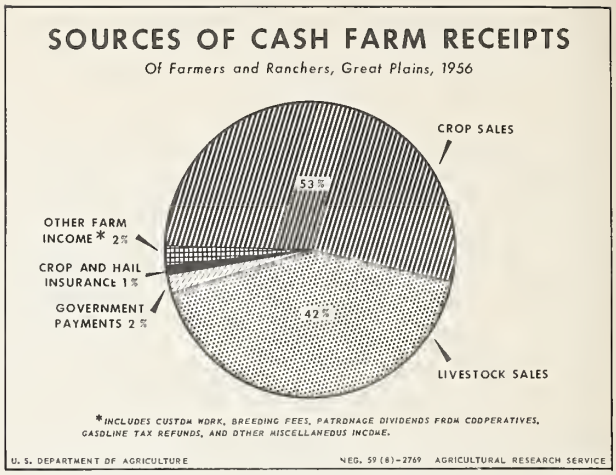


FIGURE 8

Crops were the chief source of income in the spring wheat, cotton–wheat, and winter wheat areas. In the spring wheat area, about two-thirds of the cash farm receipts in 1956 were from crops; in the cotton–wheat area, crops accounted for three-fourths of the total; and in the winter wheat area, crops accounted for about half. Livestock was the chief source of income in the northern range area, where ranching is common, and in the wheat–corn area, where production of corn permits feeding of hogs and cattle. The sources of income reflected the major types of farming in the various areas. Most farms were either cash-grain, cotton, or livestock farms. Except in the

TABLE 24.—CASH FARM RECEIPTS: *Average amount per farm, by source, areas of the Great Plains, 1956* [1]

| Source of cash farm receipts | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| Sales of— | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Crops | 5, 710 | 2, 440 | 3, 230 | 6, 600 | 7, 340 |
| Livestock | 2, 540 | 5, 690 | 4, 940 | 1, 990 | 5, 240 |
| Other farm products | 30 | 50 | 30 | 20 | 20 |
| Government payments | 210 | 300 | 190 | 150 | 210 |
| Crop and hail insurance | 100 | 110 | 60 | 20 | 70 |
| Other farm income [2] | 190 | 160 | 140 | 120 | 180 |
| Total cash farm receipts | 8, 780 | 8, 750 | 8, 590 | 8, 900 | 13, 060 |

[1] Average for farm operators reporting on all sources of income, including those reporting zero.

[2] Includes custom work, breeding fees, patronage dividends from cooperatives, gasoline tax refunds, and other miscellaneous income from the farm.

TABLE 25.—CASH FARM RECEIPTS: *Percentage distribution by source, areas of the Great Plains, 1956*

| Source of cash farm receipts | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| Sales of— | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Crops | 65 | 28 | 38 | 74 | 56 |
| Livestock | 29 | 65 | 57 | 23 | 40 |
| Other farm products | (1) | 1 | (1) | (1) | (1) |
| Government payments | 3 | 3 | 2 | 2 | 2 |
| Crop and hail insurance | 1 | 1 | 1 | (1) | 1 |
| Other farm income [2] | 2 | 2 | 2 | 1 | 1 |
| Total cash farm receipts | 100 | 100 | 100 | 100 | 100 |

[1] Less than 0.5 percent.

[2] Includes custom work, breeding fees, patronage dividends from cooperatives, gasoline tax refunds, and other miscellaneous income from the farm.

wheat–corn area, general farms were relatively unimportant.

Only 58 percent of the farmers in the northern range area, where range livestock is a major source of income, sold some crops in 1956, but in the spring wheat area, crop sales were reported by 95 percent of the farmers. The proportion of farmers reporting livestock sales ranged from 72 percent in the cotton–wheat area to 90 percent in the wheat–corn area.

Some sources of farm income were relatively unimportant in the total income of an area but were fairly substantial for the farmers who had such income. Government payments averaged $590 per farmer receiving them in the northern range area, and crop and hail insurance payments averaged $1,360 per farmer collecting insurance in the winter wheat area. In the cotton–wheat area, farmers reporting "other" income averaged $810 of such income.

## Relation to Tenure

In each area, part owners had larger cash farm receipts than did tenants, and tenants had larger cash receipts than did full owners (table 26).

Most of the differences in farm receipts between tenure classes are explained by differences in acreage farmed and in the value of assets used in farming. Tenant farms in each area had smaller acreages than part-owner farms, but usually larger acreages than those operated by full owners. (See chapter 4.) The average value of farm assets operated was highest in each area for part owners (table 27). In four of the five areas, tenants operated assets of higher average value than full owners. However, in the spring wheat, northern range, and wheat–corn areas, the differences between full owners and tenants in regard to value of farm assets operated were relatively small.

In the Great Plains, tenancy and crop farming are directly related. In each area, tenants received a significantly larger share of their cash farm income from crops than did part owners, and crop income was usually more important on part-owner farms than on farms operated by full owners. In the winter wheat area, for example, the proportions of 1956 cash farm income from crops were: Tenants, 72 percent; part owners, 54 percent; and full owners, 43 percent. Similarly, when Great Plains farms are classified by type, in each area a larger proportion of cash-grain than of livestock farmers were tenants.

TABLE 26.—CASH FARM RECEIPTS: *Average per farm, by tenure of operator and value of farm products sold, areas of the Great Plains, 1956* [1]

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Full owners | 7, 170 | 5, 780 | 6, 420 | 5, 930 | 11, 440 |
| Part owners | 10, 330 | 11, 110 | 11, 650 | 11, 970 | 14, 300 |
| Owner-operators who sold farm products valued at— | | | | | |
| $10,000 and over | 18, 110 | 20, 860 | 23, 470 | 24, 670 | 27, 870 |
| $5,000 to $9,999 | 7, 440 | 7, 740 | 7, 470 | 7, 540 | 7, 610 |
| Less than $5,000 | 3, 400 | 2, 840 | 3, 190 | 2, 240 | 2, 480 |
| All owner-operators [2] | 9, 020 | 9, 080 | 9, 490 | 8, 790 | 13, 100 |
| Tenants | 7, 680 | 6, 570 | 7, 020 | 9, 180 | 12, 980 |
| All operators | 8, 780 | 8, 750 | 8, 590 | 8, 900 | 13, 060 |

[1] Average for farm operators reporting on all sources of income, including those reporting zero.

[2] Includes operators of farms not classified by value of farm products sold.

## Relation to Size of Farm Business

In most areas of the Great Plains, crop sales were more important and accounted for a larger share of farm income on the larger owner-operated farms than on the smaller ones. In the cotton–

TABLE 27.—ASSETS USED IN FARMING, 1957, AND CASH FARM RECEIPTS, 1956: *Average amounts per farm operator, by tenure, areas of the Great Plains* [1]

| Area | Value of assets used in farming | | | Cash farm receipts | | |
|---|---|---|---|---|---|---|
| | Full owners | Part owners | Tenants | Full owners | Part owners | Tenants |
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Spring wheat | 41, 040 | 64, 820 | 44, 060 | 7, 170 | 10, 330 | 7, 680 |
| Northern range | 48, 520 | 111, 630 | 44, 140 | 5, 780 | 11, 110 | 6, 570 |
| Wheat–corn | 48, 180 | 75, 990 | 50, 650 | 6, 420 | 11, 650 | 7, 020 |
| Cotton–wheat | 48, 340 | 93, 660 | 65, 320 | 5, 930 | 11, 970 | 9, 180 |
| Winter wheat | 65, 250 | 118, 760 | 82, 070 | 11, 440 | 14, 300 | 12, 980 |

[1] Average for farm operators reporting on all groups including those reporting zero.

wheat area, for example, 47 percent of the farm receipts on owner-operated farms from which less than $5,000 in products were sold came from sales of crops; on farms from which $10,000 or more in products were sold, crops accounted for 78 percent of the farm receipts.

The proportions of farm receipts from crops for owner-operated farms from which various amounts of farm products were sold in 1956 were:

| Area | $10,000 or more in sales | $5,000 to $9,999 in sales | Less than $5,000 in sales |
|---|---|---|---|
| | *Percent* | *Percent* | *Percent* |
| Spring wheat | 72 | 56 | 49 |
| Northern range | 27 | 28 | 21 |
| Wheat–corn | 32 | 42 | 36 |
| Cotton–wheat | 78 | 62 | 47 |
| Winter wheat | 50 | 54 | 41 |

## Net Cash Income of Farm Families

The net cash incomes of farm families in the Great Plains come from many sources. Farming is the major source of income for most farm families, but some of them receive substantial proportions of their income from off-farm work, pensions, and investments. In this report, net cash income is defined as the net cash income received from *farming* (total cash receipts less cash operating expenses) *plus* net cash income from off-farm work and other sources. Depreciation of farm assets was not deducted, nor were increases in farm assets added. Consequently, net cash income is the amount of money a farm family has available for living expenses, replacement of worn-out machinery and other capital items, purchase of land, savings, and other purposes.

### Amount of Net Cash Income

Drought reduced farm income in the 1950's, but even after allowing for the drought, it seems likely that a considerable number of farm families are in a more or less chronic low-income position. In the five areas, from 2 to 5 percent of the farmers operated farm assets valued in 1957 at less than $10,000; farm assets valued at less than $25,000 were operated by 12 to 26 percent. (See chapter 6.) Substantial percentages of farmers did not produce much for sale, and therefore could not have a high income from farming. In the cotton-wheat area, which had the highest percentage of low-income farms, a third of the farmers had gross farm receipts of less than $2,500 in 1956, and more than half had less than $5,000. The spring wheat area was best in this respect, with only 11 percent of the farmers reporting less than $2,500 in gross farm receipts and 32 percent reporting less than $5,000.

A look at the net cash income figures shows that in 1956, many farmers had low incomes, even when income from off-farm work and other sources is added to that from farming. This was largely because of the small output from their farms. The proportion of farm families with net cash incomes from all sources of less than $1,000 ranged from 13 percent in the spring wheat area to 24 percent in the northern range and wheat–corn areas (table 28). From 34 to 55 percent had net incomes of less than $2,500. Some farmers had net

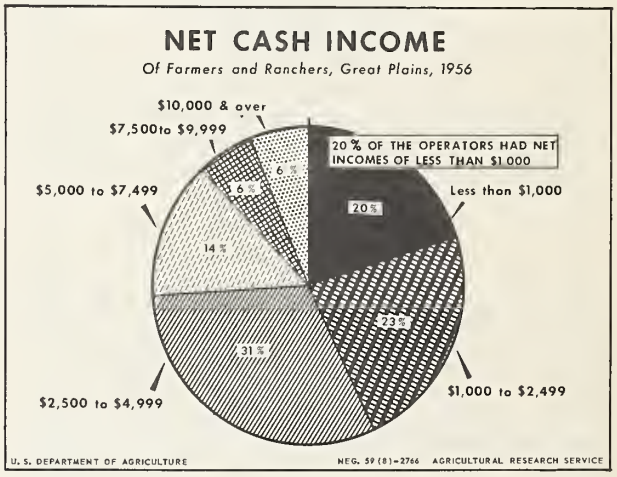


FIGURE 9

cash incomes of more than $10,000—3 percent in the wheat–corn area and 9 percent in the cotton–wheat and winter wheat areas. A percentage distribution of farmers in all areas of the Great Plains according to the value of their net cash income in 1956 is shown in figure 9.

Average net cash income per farm family was highest in the spring wheat and winter wheat areas, where it was about $4,500, and lowest in the wheat–corn area, where the average was $3,000 (table 29). Differences between areas in total net cash income from all sources resulted chiefly from differences in net cash income from farming.

TABLE 28.—NET CASH INCOME: *Percentage distribution of farm families, by amount of net cash income, areas of the Great Plains, 1956*

| Net income of operator and family | Spring wheat | Northern range | Wheat-corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Under $1,000 | 13 | 24 | 24 | 21 | 16 |
| $1,000 to $2,499 | 21 | 20 | 31 | 21 | 20 |
| $2,500 to $4,999 | 34 | 31 | 30 | 27 | 33 |
| $5,000 to $7,499 | 16 | 14 | 9 | 16 | 15 |
| $7,500 to $9,999 | 8 | 6 | 3 | 6 | 7 |
| $10,000 and over | 8 | 5 | 3 | 9 | 9 |
| Total | 100 | 100 | 100 | 100 | 100 |

TABLE 29.—NET CASH INCOME: *Average per farm family, by source of income, areas of the Great Plains, 1956* [1]

| Source of income | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Operators: | | | | | |
| Net income from farming | *Dollars* 3, 820 | *Dollars* 2, 520 | *Dollars* 2, 160 | *Dollars* 2, 510 | *Dollars* 3, 010 |
| Off-farm work | 170 | 320 | 380 | 930 | 500 |
| Other farms owned or operated | 70 | 20 | 70 | 130 | 170 |
| Pensions | 30 | 60 | 20 | 70 | 60 |
| Other nonfarm income | 310 | 320 | 260 | 480 | 590 |
| Total | 4, 400 | 3, 240 | 2, 890 | 4, 120 | 4, 330 |
| Other family members | 110 | 160 | 110 | 300 | 170 |
| Total, operator and family | 4, 510 | 3, 400 | 3, 000 | 4, 420 | 4, 500 |

[1] Average for farm families reporting on all farm and nonfarm sources of income, including those reporting zero.

## Sources of Net Cash Income

As mentioned previously, the chief source of net cash income for farmers in the Great Plains was farming (fig. 10), but some farmers had substantial amounts of other income. Income from farming ranged from 85 percent of the total in the spring wheat area to 57 percent in the cotton–wheat area.

Income from off-farm work was highest in the cotton–wheat area and lowest in the spring wheat area. Off-farm work of the farm operator accounted for 21 percent of the income of farm families in the former area and for only 4 percent in the latter. Thirty-nine percent of the farmers in the cotton–wheat area reported income from off-farm work; in the other areas, the proportions were lower, ranging downward to 16 percent in the spring wheat area. The amount per farmer reporting off-farm work ranged from $2,360 in the cotton–wheat area to $1,110 in the spring wheat area. Area differences in the amount or importance of income from off-farm work are not related directly to differences between areas in farm income or in size of farm, whether measured by value of assets operated or by sales of farm products. The differences in off-farm income reflect the opportunities for off-farm employment and the principal occupation and residence of the farmer. In the cotton–wheat area, for instance, income from off-farm work was highest for the region, as was the percentage of farm operators who lived in town and who gave farming as their principal occupation.

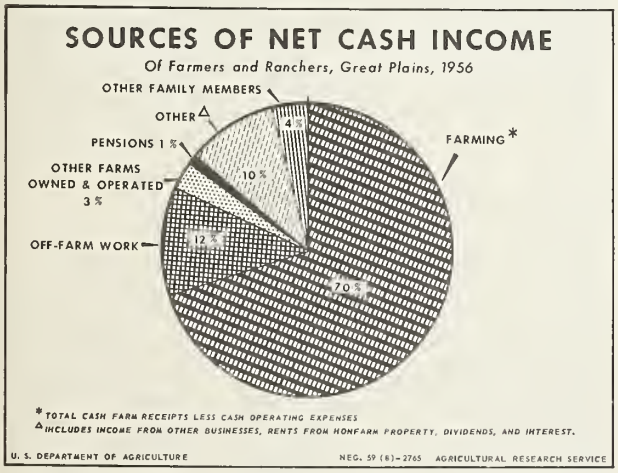


FIGURE 10

Some farmers had income from other farms they owned or operated or in which they had interests as partners. Between 3 and 9 percent of the farmers reported such income, and it made up between 1 and 4 percent of the total net cash income of farm operators in the various areas. The average amount for each farmer reporting this income ranged from $1,120 in the wheat–corn area to $2,340 in the cotton–wheat area.

Similarly, income from pensions was small. It ranged from $660 in the spring wheat area to $980 in the winter wheat area for each farmer reporting such income. Relatively few farmers reported receiving any income from pensions in 1956. The percentage ranged from 4 percent of all farm operators in the spring wheat area to 8 percent in the northern range and cotton–wheat areas. Only a limited number of farmers would have drawn Social Security payments on the basis of past employment as farmers, although some farmers may have received payments based on employment in other occupations. Income from Social Security can be expected to become more important in the future as more farmers become eligible for payments.

"Other nonfarm income" includes income from such sources as other businesses owned or operated, rents from nonfarm property, dividends, and interest. In some areas, nearly 60 percent of the farmers reported "other" income, and it accounted for 7 to 13 percent of total net cash income.

The last major category of income is that which farm families received from "other family members," chiefly the wife and children of the farmer. From 8 to 18 percent of all farmers reported receiving such income; the average amount per family reporting ranged from $910 in the wheat–corn area to $1,650 in the cotton–wheat area. Income from other family members accounted for 2 to 7 percent of the total net cash income of farm families.

## Relation to Tenure and Size of Farm

Throughout the Great Plains, tenants averaged smaller total net cash incomes from all sources than did full owners (table 30). Except in the

TABLE 30.—NET CASH INCOME OF FARM FAMILIES: *Average per family, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1956* [1]

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Full owners | 4, 390 | 2, 960 | 3, 100 | 4, 370 | 4, 780 |
| Part owners | 5, 060 | 3, 780 | 3, 580 | 5, 350 | 4, 670 |
| Owner-operators who sold farm products valued at— | | | | | |
| $10,000 and over | 7, 940 | 5, 830 | 6, 400 | 9, 580 | 7, 860 |
| $5,000 to $9,999 | 4, 000 | 3, 510 | 2, 980 | 4, 430 | 3, 840 |
| Less than $5,000 | 2, 530 | 1, 790 | 1, 770 | 2, 540 | 2, 230 |
| All owner-operators [2] | 4, 810 | 3, 480 | 3, 390 | 4, 480 | 4, 710 |
| Tenants | 3, 160 | 2, 840 | 2, 290 | 3, 450 | 4, 030 |
| All operators | 4, 510 | 3, 400 | 3, 000 | 4, 420 | 4, 500 |

[1] Average for all farm families reporting on all sources of farm and nonfarm income, including those reporting zero.

[2] Includes operators of farms not classified by value of farm products sold.

winter wheat area, the average total net income of part owners exceeded that of full owners. These differences in total income from all sources largely reflect variation in net income from farming. The differences between tenants and owner-operators in farm income reflected both payment of rent on all land operated by tenants and differences in size of farm as measured by value of farm assets operated and gross farm income. (See chapter 6.)

Apparently, the net cash incomes of farm families in the Great Plains depended chiefly on the income received from farming and that, in turn, depended chiefly on the size and productivity of the farm operated. On the larger farms, nonfarm income was less important and usually smaller in amount than on the smaller farms. The data for owner-operators showed that in each area as sales of farm products increased, the proportion of total net cash income that came from farming increased. For example, in the cotton–wheat area, only 18 percent of the total net cash income of owner-operators with less than $5,000 of sales was from farming. With sales of $5,000 to $9,999, the proportion was 54 percent; when sales were $10,000 and over, it was 78 percent.

Tenure differences in the amount and importance of nonfarm income also reflected the size of farm operated. Full owners, on the average, received a larger amount of nonfarm income than either tenants or part owners, and nonfarm income was usually a larger share of the total for full owners. In each area, the value of farm assets operated by full owners was less than that operated by part owners, and in four areas it was less than that by tenants. In general, also, full owners were older than either tenants or part owners. The financial assets of full owners were usually larger, and usually a larger proportion of their income than of the income of tenants and part owners was from pensions, other businesses, interest, and dividends.

Off-farm work was usually the largest single source of nonfarm income. In most areas, tenant farmers, on the average, received a somewhat larger share of their total family income from the off-farm work of themselves and their families than did full owners and part owners. Similarly, in each area, a higher percentage of tenants reported some income from off-farm work. Size of farm again seemed to be a major factor in determining whether a farmer engaged in off-farm work. In some areas, small farmers selling less than $5,000 worth of farm products were two or three times as likely to report off-farm work as those selling $10,000 worth.

In all areas, full owners with off-farm employment worked more days off the farm than did part owners who had off-farm employment, and in three areas, they worked more days off the farm than did tenants who had off-farm employment. Frequently, tenants did more off-farm work than did part owners. One reason for this was that in each area a larger proportion of full than of part owners reported that their principal occupation was not farming; in three areas, the proportion was higher also for full owners than for tenants. Fewer part owners than either full owners or tenants reported their principal occupation as other than farming. The number of days worked was also related to size of farm; operators of small farms spent more time in off-farm work than did operators of large farms.

Full owners who worked off the farm in 1956 usually earned more than tenants from such work, and tenants usually earned more than part owners. The amount earned was less for operators of large farms than for operators of small farms in three areas, but in the other two areas, no clear relationship between operators of large and those of small farms was evident. Operators of small farms tended to earn a little less per day in off-farm work than did the operators of large farms.

"All other" net cash income of the farm operator includes pensions, interest, dividends, rents, and similar miscellaneous sources of nonfarm income. These miscellaneous items usually made up a larger part of the total for full owners than for either part owners or tenants, and were a larger part for small owners than for large ones. Incomes of other family members also made up a larger proportion of the total for small owners than for large ones and the proportion was usually

larger for tenants than for full or part owners. Income from farms owned by operators and rented to others, or in the operation of which the operators had an interest, was relatively unimportant.

In general, operators of small farms did not obtain enough off-farm income to make up for their low incomes from farming. The average owner-operator in the Great Plains who sold less than $5,000 of farm products in 1956 would have had to add from $1,240 to $1,900 in off-farm income, depending on the area, if his *total* net cash income were to equal the average net cash *farm* income of owner-operators who sold $5,000 to $9,999 in farm products. In the cotton–wheat area, the amount of off-farm income actually obtained was more than enough to make up this difference in farm income. In the winter wheat area, it was virtually sufficient, but in the other three areas, the average off-farm income of small owner-operators was much less than the difference in average net cash farm income of their farms and that of the larger farms.

## Conclusions

In the Great Plains, farmers' incomes vary widely. In 1956, 20 percent of the farmers had net cash incomes from all sources of less than $1,000, chiefly reflecting small farming operations. About 40 percent of the farmers had less than $2,500 in net income, while 6 percent reported $10,000 or more.

Generally, the greater the value of assets used in farming the greater the quantity of farm products sold and the larger the amount of net cash income. In most areas, the large farms had relatively more income from crops, although in the wheat–corn area, income from livestock tended to increase in importance as total sales of farm products rose. A larger percentage of owner-operators than of tenants were livestock farmers.

Increasing earnings from off-farm work is often mentioned as a way for farmers to increase their incomes, and from 16 to 39 percent of all Great Plains farmers did some off-farm work in 1956. However, the amount of this work available in the Great Plains varies considerably from one locality to another. Because many of the nonfarm businesses in the Great Plains depend on sales to farmers, off-farm employment opportunities may fall off in years in which farm income declines.

# *Chapter 6.*—Financial Structure of Great Plains Agriculture

Fred L. Garlock and Edmund T. Hamlin

This chapter deals with the financial structure of agriculture in the Great Plains at mid-1957. It examines the assets used in farming operations in the region, showing how these assets varied from area to area and by tenure of the operator and economic class of farm, and how the farms in each area were distributed according to the value of the assets operated. It then takes up the assets, nonfarm as well as farm, that were owned by the farmers and the equities of the farmers in these assets. A concluding section compares the importance of the various sources from which farmers in the region raised the capital they used in their operations.

## Assets Used in Farming

The physical assets used in farming are taken here to include the land, buildings, livestock, motor vehicles, and farm machinery that the operators of farms used in their operations and their inventories of stored crops and other physical items, such as seed, fertilizer, commercial feed, oil, gas, and miscellaneous supplies. Assets used in farming include all these items, whether owned or rented by the operator, or supplied by a landlord or partner, and regardless of the operator's equity in those he owns. These physical assets used in farming do not include financial assets or household goods owned by farmers or the machines used by custom operators whose services were hired by the farmers.

### Area Variations in Assets Used Per Farm

The relatively large scale of farming in the Great Plains is shown by the average number

TABLE 31.—ASSETS USED IN FARMING: *Average value per farm by type of asset, areas of the Great Plains and United States, 1957*

| Type of asset | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat | United States [1] |
|---|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Farm real estate | 39, 240 | 59, 120 | 47, 550 | 59, 460 | 79, 500 | 23, 250 |
| Livestock | 4, 910 | 15, 480 | 5, 170 | 2, 430 | 4, 750 | 2, 620 |
| Motor vehicles and machinery | 8, 550 | 6, 750 | 5, 850 | 6, 560 | 8, 070 | 3, 580 |
| Stored crops | 820 | 600 | 570 | 230 | 410 | 1, 630 |
| All other | 200 | 240 | 180 | 160 | 270 | ---------- |
| Total assets | 53, 720 | 82, 190 | 59, 320 | 68, 840 | 93, 000 | 31, 080 |

[1] Computed by dividing assets shown by the Balance Sheet of Agriculture (average for January 1, 1957, and January 1, 1958) by number of farms in 1957 as estimated by the Agricultural Marketing Service.

of acres operated and the average value per farm of the assets used in farming. Compared with the average farm size of about 250 acres for the United States as a whole, the average size of farms in the Great Plains ranged from about 430 acres in the wheat–corn area to nearly 2,450 acres in the northern range area. (See chapter 3.) Similarly, the average value per farm of the assets used in farming, which was about $31,000 for the country as a whole, ranged from about $54,000 in the spring wheat area to about $93,000 in the winter wheat area (table 31). Both the value of the farm real estate and the value of the other assets used in farming were considerably greater per farm in the Great Plains than generally throughout the United States. It is probable, however, that values as high or higher could be found in parts of the Corn Belt and parts of the Mountain and Pacific Regions.

Of the several classes of assets used by farmers in the Great Plains, real estate had by far the greatest value (table 31). In the five areas, it accounted for 72 to 86 percent of the total value of the assets operated; in dollars, it ranged in value from an average of slightly less than $40,000 per farm in the spring wheat area to nearly $80,000 per farm in the winter wheat area. Motor vehicles and machinery ranked next to real estate in value, except in the northern range area where livestock ranked higher. Farmers in the winter and spring wheat areas used motor vehicles and machinery of the greatest average value—from about $8,000 to $8,500 per farm—probably because they had the largest acreages in crops. In the northern range area, the average value of livestock per farm exceeded $15,000, which compares with only $2,500 in the cotton–wheat area, and about $5,000 in the three other areas. Although more than 80 percent of the farms in all areas had some livestock, about two-thirds of the farms in the northern range area were classified as livestock farms—a much higher percentage than in any other area. Many of the livestock farms in this area were cattle ranches.

## Need for Farm Assets of High Value

The relatively high average value per farm of the assets used in farming in the Great Plains arose largely from climatic conditions. Because of low rainfall and other factors, grain farming and livestock grazing were the types of agriculture best adapted to most parts of the region. These types of agriculture require use of large areas of land. Even though land values per acre were relatively low, real estate of large aggregate value was required for successful farming in the region. Moreover, the large farms required extensive use of machinery, and, with ranching, large numbers of livestock.

As a result of these conditions, relatively few farmers in the Great Plains operated with farm assets valued at less than $25,000 and, in all except the spring wheat area, 45 percent or more of the farmers used farm assets valued at $50,000 or more. More than a fifth of the farmers in the northern range area and more than a fourth of those in the winter wheat area used farm assets valued at $100,000 or more. The spring wheat and cotton–wheat areas contained the largest percentages of farmers who operated with farm assets

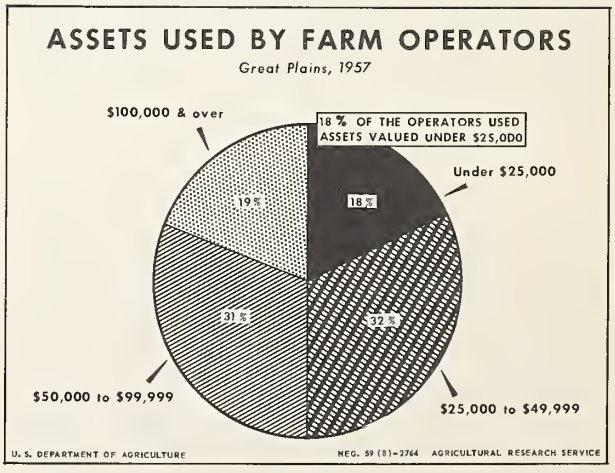


FIGURE 11

TABLE 32.—ASSETS USED IN FARMING. *Average value per owner-operator, by value of farm products sold in 1956, areas of the Great Plains, 1957* [1]

| Value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| $10,000 and over | 96, 350 | 181, 970 | 122, 910 | 150, 610 | 160, 370 |
| $5,000 to $9,999 | 44, 860 | 68, 890 | 58, 760 | 72, 590 | 75, 940 |
| Less than $5,000 | 30, 050 | 36, 440 | 36, 050 | 34, 040 | 48, 000 |
| All owner-operated farms [2] | 55, 740 | 87, 990 | 64, 430 | 70, 330 | 97, 540 |

[1] Average for farms reporting values for all asset groups, including those reporting zero.
[2] Includes farms not classified by value of farm products sold.

of relatively small value. A percentage distribution of farmers in all areas by value of assets used is shown in figure 11.

The need for large aggregations of capital in Great Plains farming is reflected to some extent by data on the average sales of farm products per farm and the average net incomes of the operators from farming. The amount of farm assets required to obtain $1 in farm product sales in 1956 ranged from $6.50 in the spring wheat area to $10 in the northern range area, and in the same areas, from $14.10 to $32.60 in farm assets were required for the operator to obtain $1 of net cash income from farming. For the United States as a whole, the amounts of capital required in 1956 were about $5 per $1 of farm product sales and about $12 per $1 of net cash income from farming for the operators. Within the Great Plains, the largest amounts of capital per farm were used in the areas in which the largest amounts were required to produce $1 in net income from farming for the operator.

### Other Factors Related to Capital Used

The average value per farm of the assets used in Great Plains agriculture varied not only by area, but also by sales value of the products produced and by tenure of the operator. As would be expected, the farmers who produced products of large sales value used a great deal more farm capital than those who produced products of small sales value. For example, in the wheat–corn area, the average value of assets used in farming was about $36,000 for owner-operated farms whose operators sold less than $5,000 worth of farm products in 1956, about $59,000 for those selling $5,000 to $9,999, and $123,000 for farms selling $10,000 or more (table 32).

In all areas, part owners (farmers who owned part and rented part of the land they operated) used farm assets of much greater average value per farm than did full owners and tenants. Except in the northern range area, tenants used farm assets of greater average value than those used by full owners. Thus, generally in the Great Plains, the larger operations involved use of some rented land.

Part ownership was the most common form of tenure in the Great Plains. Because of this, and the large average value of the farm assets operated by part owners, about 74 percent of all farm assets in the northern range area and 62 percent of those in the spring wheat area were operated by part owners. Operations conducted by tenants were of minor importance in these areas, but they accounted for 32 percent of all farm assets in the wheat–corn area and for more than 25 percent of all farm assets in the cotton–wheat and winter wheat areas. The farm assets operated by full owners of farms ranged from 19 percent of all farm assets in the northern range area to about 25 percent of all farm assets in the spring wheat and cotton–wheat areas.

## Assets Owned by Farmers

On the average, farmers in the Great Plains owned 56 percent of the farm assets they used in their operations. The percentage owned by operators ranged from 66 percent in the spring wheat and northern range areas to a little more than 50 percent in the other areas. Within areas, they varied greatly according to tenure of the operators. But even though farm operators in the Great Plains owned only a little more than half of the farm assets used in their operations, the value of the farm assets they owned probably was considerably greater than that of farmers in most other parts of the United States because their farms were larger and represented capital investments of greater value.

Roughly 80 percent of the value of assets owned by farmers in the Great Plains was in the farms they operated—in the land and buildings, livestock, motor vehicles and machinery, and in the supplies and harvested crops they had on hand. The remaining 20 percent of the value of their assets was divided almost equally between other

TABLE 33.—BALANCE SHEET OF FARM OPERATORS: *Average amount per farm operator, by tenure of operator, Great Plains, 1957* [1]

| Item | Full owners | Part owners | Tenants | All operators |
|---|---|---|---|---|
| ASSETS | | | | |
| Physical assets: | | | | |
| Real estate: | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Owned and operated | 37, 020 | 37, 890 | ---------- | 27, 180 |
| Owned but not operated | 5, 990 | 4, 000 | 2, 360 | 4, 090 |
| Farm | 4, 040 | 1, 910 | 1, 020 | 2, 260 |
| Nonfarm | 1, 950 | 2, 090 | 1, 340 | 1, 830 |
| Non-real-estate: | | | | |
| Livestock | 4, 120 | 6, 980 | 3, 100 | 5, 200 |
| Machinery and motor vehicles | 5, 240 | 7, 710 | 5, 470 | 6, 360 |
| Other [2] | 570 | 770 | 400 | 610 |
| Household goods and miscellaneous nonfinancial assets | 1, 430 | 1, 590 | 1, 440 | 1, 520 |
| Total physical assets | 54, 370 | 58, 940 | 12, 770 | 44, 960 |
| Financial assets: | | | | |
| Bank deposits [3] | 2, 160 | 1, 710 | 820 | 1, 610 |
| U.S. bonds | 1, 430 | 800 | 250 | 840 |
| Cooperative stocks and bonds | 360 | 310 | 160 | 270 |
| Corporate stocks and bonds | 710 | 340 | 100 | 400 |
| Cash value of life insurance | 1, 070 | 1, 210 | 740 | 1, 040 |
| Other | 1, 200 | 1, 240 | 860 | 1, 130 |
| Total financial assets | 6, 930 | 5, 610 | 2, 930 | 5, 290 |
| Total assets | 61, 300 | 64, 550 | 15, 700 | 50, 250 |
| CLAIMS | | | | |
| Liabilities: | | | | |
| Real estate secured debt [4] | 2, 760 | 4, 090 | 420 | 2, 690 |
| Non-real-estate secured debt | 1, 000 | 2, 070 | 2, 220 | 1, 820 |
| Unsecured debt | 550 | 1, 070 | 590 | 780 |
| Total liabilities | 4, 310 | 7, 230 | 3, 230 | 5, 290 |
| Operators' equities | 56, 990 | 57, 320 | 12, 470 | 44, 960 |
| Total | 61, 300 | 64, 550 | 15, 700 | 50, 250 |

[1] Average for farm operators reporting on all items, including those reporting zero.
[2] Includes stored crops on and off-farm and farm supplies, exclusive of crops under Commodity Credit Corporation loans.
[3] Includes both checking and time deposits.
[4] Includes debt with both real estate and non-real-estate security.

physical assets and financial assets. The other physical assets included other farms, city real estate, and household goods. The financial assets included deposits at banks and other institutions, corporation stocks, bonds of various kinds, interests in nonfarm businesses, equities in cooperative associations, and the cash value of life insurance policies. (See chapter 8.) The average value of all assets owned by the farmers at mid-1957 was about $50,000. It ranged from a little less than $40,000 in the wheat–corn area to nearly $65,000 in the northern range and winter wheat areas (tables 33 and 34).

Not all of the farmers owned each type of asset. Because many were tenants, the percentage of operators who owned part or all of the farms they operated ranged from 85 percent in the northern range area to 61 percent in the wheat–corn area. Most of the farmers had motor vehicles and farm machinery, household goods, and financial assets, and most had livestock and "other" assets, but relatively few owned city real estate or farms operated by others.

Relative to their number, tenants owned city real estate and farms operated by others nearly as frequently as did owner-operators. This is surprising in a sense, as tenants had so much less capital than owner-operators that fewer of them would be expected to own properties of substantial value in addition to investments in their own farming operations. However, the properties owned by tenants were less valuable than those owned by owner-operators.

## Area Differences in Assets Owned

Despite the large differences in per acre land values, size of farm, and predominant types of

TABLE 34.—ASSETS OWNED BY FARMER OPERATORS: *Average value per farm operator, by type of asset, areas of the Great Plains, 1957* [1]

| Type of asset | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Farm operated: | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Real estate | 21, 500 | 34, 760 | 19, 950 | 25, 470 | 36, 320 |
| Livestock | 4, 620 | 13, 730 | 4, 690 | 2, 300 | 4, 210 |
| Motor vehicles and machinery | 7, 590 | 6, 060 | 5, 250 | 5, 830 | 7, 180 |
| Other | 840 | 770 | 620 | 360 | 560 |
| Total | 34, 550 | 55, 320 | 30, 510 | 33, 960 | 48, 270 |
| Other farm assets [2] | 1, 040 | 820 | 2, 170 | 2, 510 | 3, 690 |
| Nonfarm real estate | 1, 900 | 1, 300 | 720 | 2, 280 | 2, 880 |
| Household goods and miscellaneous nonfinancial assets | 1, 400 | 1, 280 | 1, 180 | 2, 150 | 1, 590 |
| Financial assets | 4, 410 | 5, 970 | 3, 940 | 5, 680 | 6, 710 |
| Total, all assets | 43, 300 | 64, 690 | 38, 520 | 46, 580 | 63, 140 |

[1] Average for farm operators reporting on all asset groups, including those reporting zero.
[2] Assets in farms operated by others.

farming, the average value of most of the types of assets owned by farmers in the Great Plains varied little from area to area. The greatest dollar differences were in the value of the farm real estate that was owned and operated. Farmers in the winter wheat and northern range areas owned farm real estate with the largest, and those in the spring wheat and wheat–corn areas with the smallest, average value per farm. In a broad sense, these variations corresponded with variations in the value of the farm real estate operated, but the correspondence was not close because of area differences in the rate of tenancy and other factors.

The average value of the livestock owned by farmers ranged from about $13,700 in the northern range area to only $2,300 in the cotton–wheat area. This reflected the relative importance of cattle ranching in the northern range area and the relative unimportance of livestock enterprises in the cotton–wheat area. In the other three areas, the average value of the livestock owned ranged from about $4,700 to about $4,200.

Most of the other assets showed little variation. Farmers in the spring wheat and winter wheat areas had the greatest investment in motor vehicles and machinery, but the variation among areas was only from about $5,200 in the wheat–corn area to about $7,600 in the spring wheat area. Similarly, the average value of the financial assets owned by farmers varied only from a low of about $3,900 in the wheat–corn area to a high of about $6,700 in the winter wheat area.

## Relation to Tenure of Operator

In most areas, full owners and part owners owned assets of about the same average value. A notable exception was the northern range area in which the assets of part owners were of greater value than those of full owners. In general, part owners had larger investments in machinery and livestock than did full owners. This may have been because they operated considerably larger farms—a difference that was especially notable in the northern range area. (See chapter 4.) But on the average, full owners had larger investments in farms operated by others. Their financial assets were also of greater value than those of part owners.

Both full owners and part owners owned assets that averaged several times as great in value as those of tenant-operators. The main difference was in farm real estate—the tenants owned none of the land they operated. But the financial assets of tenants and their investments in livestock and in farm assets operated by others also were of considerably less value than those of owner-operators.

## Relation to Sales of Farm Products

Among owner-operators, the average value of the assets owned varied with the value of farm product sales. Owner-operators whose sales in 1956 amounted to $10,000 or more had total assets at mid-1957 that averaged $112,000—about twice as large as the $54,000 for owner-operators whose sales ranged from $5,000 to $9,999 and about three times as large as the $37,000 owned by owner-operators whose sales were less than $5,000.

The data cited are for full owners and part owners combined. Probably the same general relationship between volume of sales and value of the operators' assets would have been found for each class of owner-operator if data for these classes of owners had been tabulated separately. It is probable also that the tenants who conducted the larger farming operations owned more assets than did those who conducted relatively small operations, as the larger operations require more livestock and machinery and more liquid funds.

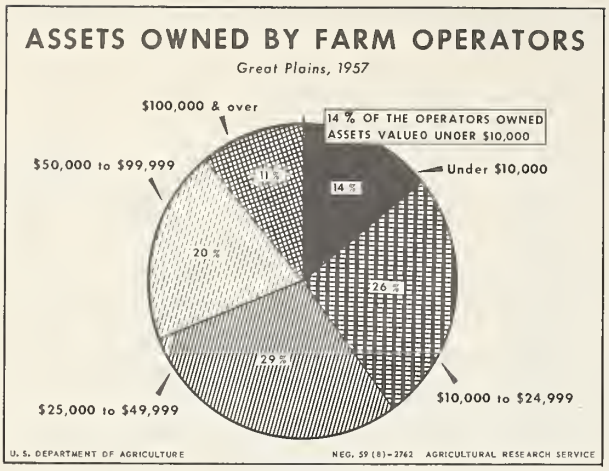


FIGURE 12

TABLE 35.—ASSETS OWNED BY FARM OPERATORS: *Percentage distribution of farm operators, by value of assets, areas of the Great Plains, 1957*

| Value of assets | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Under $10,000 | 9 | 8 | 19 | 19 | 12 |
| $10,000 to $14,999 | 8 | 7 | 12 | 11 | 9 |
| $15,000 to $19,999 | 10 | 7 | 10 | 11 | 8 |
| $20,000 to $24,999 | 9 | 9 | 8 | 6 | 5 |
| $25,000 to $49,999 | 37 | 30 | 30 | 25 | 27 |
| $50,000 to $99,999 | 20 | 24 | 15 | 17 | 23 |
| $100,000 and over | 7 | 15 | 6 | 11 | 16 |
| Total | 100 | 100 | 100 | 100 | 100 |

## Distribution of Operators by Value of Assets

Despite the relatively large average value of the assets owned by farm operators in the Great Plains, many operators in each area had assets of small value (fig. 12). This was most noticeable in the wheat–corn and cotton–wheat areas, in which about 30 percent of the operators had assets valued at less than $15,000 and nearly half had assets valued at less than $25,000 (table 35). The wheat–corn area had the largest percentage of farms operated by tenants, and the cotton–wheat area had the largest percentage of farming operations that involved a total capital value of less than $25,000.

Each area also had many operators whose assets were of comparatively large value. The northern range and winter wheat areas were conspicuous in this respect, as approximately one-sixth of the operators in these areas had assets worth $100,000 or more, and nearly 40 percent had assets worth $50,000 or more. These areas had the largest percentages of farms involving total capital values of $100,000 or more.

Within the several areas, the distribution of farm operators by value of assets varied by type of farm. In all areas, more of the livestock producers than of other operators had assets valued at $50,000 or more, and, in most areas, fewer of the livestock producers than of other farmers had assets valued at less than $25,000. Many cotton farmers owned assets worth less than $25,000, but about an average number had assets worth $50,000 or more. In general, cash grain farmers were distributed by value of assets about the same as all farmers, but operators of "other" types of farms included greater numbers whose assets were of small value.

## Debts and Net Worths of Farmers

The average debt and the average net worth of farmers in the Great Plains varied from area to area approximately as did the average value of the assets they owned. Both debts and net worths averaged highest in the northern range and winter wheat areas and lowest in the spring wheat and wheat–corn areas. In the various areas, the farmers' debts ranged from 9 to 11 percent of the total value of their assets—slightly less than the value of their financial assets. Thus in each area, their net worth equaled about nine-tenths of the value of their assets.

### Variations by Tenure

In each of the areas, tenants were more heavily indebted in relation to the value of their assets than were owner-operators, and part owners were more heavily indebted than were full owners. But the differences in this respect between full and part owners were small. As a result, except in the northern range area, the net worths of full and part owners were about the same. In the northern range area, part owners had larger assets and net worths than did full owners. Both the debts and net worths of tenants were much smaller than those of owner-operators in each area. One of the more obvious reasons for the lower net worths of tenants is that they were younger and had had less time in which to accumulate assets and pay off debts.

### Relation to Age

The net worths of farmers varied to a considerable extent according to the age of the farmer. Almost three-fourths of those who were less than 35 years old had net worths of less than $25,000,

compared with only half of those who were 35 to 44 and a little more than a third of those who were 45 or more. Conversely, less than one-tenth of the younger group, compared with more than a third of the groups 45 or more years old, had net worths of $50,000 or more.

The more favorable net-worth position of the older farmers was due mainly to the fact that they had had more time in which to accumulate capital, and in particular to benefit from the steady rise in land prices. Using 1947–49 as a base, real estate prices in the 10 Great Plains States had increased from 20 to 60 percent, depending on the State, by early 1957.[7] As 70 percent or more of the total value of assets used by the farmers surveyed consisted of farm real estate, it is clear that rising land prices contributed materially to the favorable net worth position of many farmers.

### Relation to Volume of Sales

Among owner-operators, no significant variations in debt–asset ratios were observable when the operators were grouped by volume of sales. The ratios of debts to assets varied only from 7 to 11 percent. Like the values of their assets, the debts and net worths of owner-operators increased as the volume of sales increased. Net worths averaged $34,000 for farmers selling less than $5,000 in farm products but averaged $102,000 for farmers selling $10,000 or more.

## Distribution of Operators by Net Worth

Farmers were distributed by size of net worth much the same as by value of assets (table 36, fig. 13). The wheat–corn and cotton–wheat areas had the largest proportions of operators with small net worths. Approximately a fourth of the operators in these areas had net worths of less than $10,000, and nearly 40 percent had net worths of less than $15,000. The heavy concentration of farmers with low net worths in these areas probably arose from the high rate of tenancy in the wheat–corn area and the large number of farms with low capital investments in the cotton–wheat area. Also, as in the case of the asset values, the northern range and winter wheat areas had the highest percentages of operators with large net worths—doubtless because these areas had the highest percentages of farms that represented a large capital investment.

TABLE 36.—NET WORTH, OPERATOR AND FAMILY: *Percentage distribution of farm operators, by amount of net worth, areas of the Great Plains, 1957* [1]

| Amount of net worth | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Under $5,000 | 5 | 5 | 11 | 13 | 8 |
| $5,000 to $9,999 | 9 | 7 | 14 | 13 | 12 |
| $10,000 to $14,999 | 10 | 7 | 14 | 12 | 9 |
| $15,000 to $19,999 | 10 | 11 | 9 | 7 | 7 |
| $20,000 to $24,999 | 8 | 7 | 8 | 9 | 6 |
| $25,000 to $49,999 | 33 | 28 | 26 | 22 | 24 |
| $50,000 to $99,999 | 19 | 22 | 13 | 16 | 20 |
| $100,000 and over | 6 | 13 | 5 | 8 | 14 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] Net worth adjusted by subtracting value of 1957 harvested crops; excludes value of 1957 growing crops.

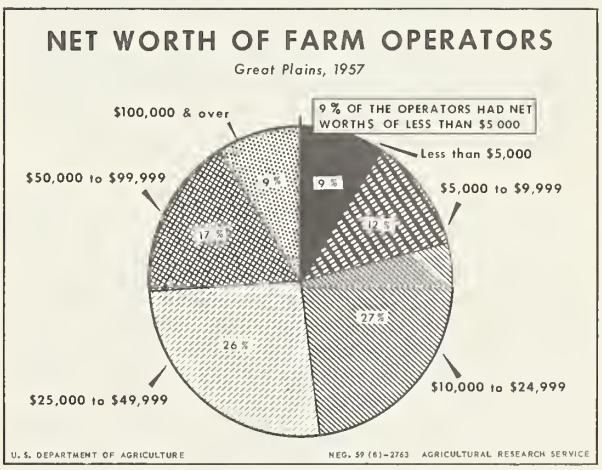


FIGURE 13

[7] U.S. AGRICULTURAL RESEARCH SERVICE. CURRENT DEVELOPMENTS IN THE FARM REAL ESTATE MARKET, NOVEMBER 1958–MARCH 1959. U.S. Agr. Res. Serv. ARS 43–101 (CD–52), 1959, pp. 30–31. This rise has continued and by early 1959, land prices in one Great Plains State (Montana) were 83 percent above the 1947–49 level.

## Sources of Capital for Farm Operations

Part owners in all areas and tenants in most areas used more farm capital in their operations than did full owners. Obviously, the tenants and part owners used a great deal of capital in addition to that represented by their own equities or net worths. Even the full owners, who used the smallest amounts of farm capital, obtained some capital from outside sources.

Landlords were the chief source of external capital for both part owners and tenants (table 37). The farm real estate obtained from landlords through lease arrangements represented, in

the various areas, from about a fourth to nearly half the value of all farm assets operated by part owners and from about three-fourths to nearly nine-tenths of the value of all farm assets operated by tenants. For both part owners and tenants, landlords were least important as a source of the capital used in farming in the northern range area and most important in the cotton–wheat area.

In the various areas, partners supplied from 5 to 11 percent of the capital used by full owners, from 2 to 7 percent of that used by part owners, and 3 percent or less of that used by tenants. For each class of operator, partners were least important as a source of capital in the cotton–wheat area and most important in the northern range area.

Lenders supplied from 6 to 8 percent of the capital used by full and part owners but only from 3 to 5 percent of that used by tenants in their farm operations.

From the data tabulated, the relationship of scale of operations to use of outside capital can be shown for owner-operated farms only. These data indicate that as a group, owner-operators including both full and part owners used considerable outside capital even in relatively small-scale operations and that outside capital became progressively more important as the scale of operations increased. Landlords were the chief source of outside capital, regardless of scale of operations. Partners were of maximum relative importance as sources of capital for the larger scale operations, and lenders for the smaller scale operations.

TABLE 37.—CAPITAL USED IN FARM OPERATIONS: *Percentage distributions, by tenure of operator and by source of capital, areas of the Great Plains, 1957* [1]

| Tenure of operator and source of capital | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Full owners: | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Partners | 6 | 11 | 5 | 5 | 6 |
| Lenders | 6 | 7 | 7 | 7 | 6 |
| Operators | 88 | 82 | 88 | 88 | 88 |
| Total | 100 | 100 | 100 | 100 | 100 |
| Part owners: | | | | | |
| Landlords | 31 | 27 | 39 | 45 | 39 |
| Partners | 4 | 7 | 4 | 2 | 4 |
| Lenders | 6 | 8 | 6 | 6 | 7 |
| Operators | 59 | 58 | 51 | 47 | 50 |
| Total | 100 | 100 | 100 | 100 | 100 |
| Tenants: | | | | | |
| Landlords | 77 | 73 | 82 | 89 | 87 |
| Partners | 2 | 3 | 1 | (2) | 1 |
| Lenders | 4 | 5 | 3 | 3 | 3 |
| Operators | 17 | 19 | 14 | 8 | 9 |
| Total | 100 | 100 | 100 | 100 | 100 |
| All operators: | | | | | |
| Landlords | 30 | 26 | 44 | 46 | 44 |
| Partners | 4 | 7 | 3 | 2 | 3 |
| Lenders | 6 | 8 | 6 | 5 | 6 |
| Operators | 60 | 59 | 47 | 47 | 47 |
| Total | 100 | 100 | 100 | 100 | 100 |

[1] In computing the amount of farm capital supplied by lenders and by operators from their net worths, both debts and equities of the operators were prorated between farm assets and other assets owned by the operators.

[2] Less than 0.5 percent.

## Conclusions

Compared with agriculture generally in the United States, farms in the Great Plains are relatively large in acreage and require use of relatively large aggregations of capital. On the average, farmers in this region own assets of considerably greater value and have considerably greater net worths than farmers in most other regions. Within the Great Plains, the net worths of farmers who conduct the larger operations generally are greater than those of farmers who conduct the smaller operations. But there are many exceptions to this generalization. Through borrowing, leasing, and partnership arrangements, many farmers have gained control over more capital than they could control if they depended solely upon their own resources. In some areas, tenants have assembled for use in their operations 10 times as much capital, and part owners more than twice as much capital, as they own.

From this review, it is clear that the personally owned resources of farmers in the Great Plains are not the dominant factor that determines or limits their scale of operation. Many farmers with small resources of their own conduct farming operations of large size. Moreover, many farmers could enlarge their operations without endangering their debt-asset positions. Among the factors that probably are more important than the farmer's net worth in determining his scale of operations, are his age, vigor and management ability, and the availability of land to be leased.

# *Chapter 7.*—Farm Credit and Farm Debts in the Great Plains

Russell W. Bierman

The use of credit is a basic characteristic of commercial agriculture in all regions of the country. Because of the above-average size of farm and value of production, it is especially important in the Great Plains. Nearly half the farm operators visited in the 1957 Great Plains Survey had obtained credit in the preceding year from banks, production credit associations or other lenders, or had made purchases on credit or time from merchants or dealers (table 38). About three-fourths of the farmers had outstanding debts of some kind in 1957 (table 39).

The use of credit and the incurring of debt reflect largely the individual circumstances of each farm operator, and certain factors or characteristics may be expected to affect the use of credit and the incidence of debt. Among them are—

(1) It is reasonable to expect that the larger his scale of operation and his capital investment, the more likely is a farmer to have debts. When a large capital investment is involved, it may exceed the amount a farmer can provide for himself. As a result, he may borrow money, enter into a partnership, lease some land, or do several of these things. This would be particularly true for farmers who were expanding their operations. In the various areas of the Great Plains, from 23 to 38 percent of the farmers reported sales of $10,000 or more in 1956. The proportions who operated assets valued at $100,000 or more ranged from 11 to 29 percent, and 39 to 65 percent operated assets of $50,000 or more.

Farm 38.—Farm credit: *Percentage of farm operators requesting credit in the 12 months preceding interview, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Owner-operators with farm products sold in 1956 valued at— | | | | | |
| $10,000 and over | 46 | 50 | 46 | 51 | 58 |
| $5,000 to $9,999 | 48 | 55 | 46 | 45 | 52 |
| Less than $5,000 | 44 | 46 | 42 | 38 | 33 |
| All owner-operators [1] | 45 | 49 | 44 | 43 | 47 |
| Tenants | 56 | 56 | 51 | 62 | 61 |
| All operators | 47 | 50 | 47 | 49 | 51 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

Table 39.—Debt of farm operators: *Percentage of farm operators reporting debt, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Full owners | 64 | 69 | 60 | 66 | 59 |
| Part owners | 73 | 82 | 78 | 78 | 78 |
| Owner-operators with farm products sold in 1956 valued at— | | | | | |
| $10,000 and over | 67 | 78 | 77 | 77 | 77 |
| $5,000 to $9,999 | 75 | 77 | 77 | 77 | 73 |
| Less than $5,000 | 70 | 77 | 64 | 68 | 64 |
| All owner operators [1] | 69 | 77 | 71 | 72 | 70 |
| Tenants | 81 | 80 | 77 | 81 | 82 |
| All operators | 71 | 78 | 73 | 74 | 74 |

[1] Includes operators of farms not classsified by value of farm products sold in 1956.

(2) The use of credit and the incurring of debt may be affected by the amount of annual operating expenses. When the amount of operating expenses is large, short-term credit may be needed. Otherwise, the farmer would need to tie up or set aside for operating expenses funds that might be used more profitably elsewhere in his business. The survey obtained no data on operating expenses, but operating expenses can be assumed to increase with the scale of the farm or ranch operation.

(3) It may be that the larger a farmer's financial assets the less likely he is to use credit. Great Plains farmers possessed considerable financial assets, but they were unevenly distributed. Owner-operators who sold $10,000 or more of farm products in 1956 had from three to four times the financial assets of those selling less than $5,000. (See chapter 8.) Consequently, at least some of the tendency for large-scale operations to require credit may be offset by the larger amount of financial assets available. The types of financial assets held may also affect their use for financing farm operations. Less than a fourth of farmers' total financial assets was in checking accounts; the balance was in savings accounts, stocks and bonds, cash value of life insurance, and miscellaneous financial assets. Farmers may be reluctant to use these latter types of financial assets for current farm operation and improvement.

(4) The income level of recent years, and particularly that of the immediately preceding year, affects the debt position of farmers. Low income tends to reduce financial assets, reduce debt repayment, and increase the use of credit for operating and living expenses. Farm income in the region had been declining for several years when the survey was made in 1957. In 1951, the total realized net farm income of farm operators in the 10 Great Plains States was $3,179 million, but by 1956, it had dropped to $2,263 million. (See chapter 5.) The 1956 total was 9 percent above that of 1955, but it was 29 percent below the total in 1951. An example of the reduction in average realized net income per farm is seen in the case of Nebraska, where the average dropped from $4,200 in 1951 to $2,900 in 1956.

(5) The tenure of a farm operator affects his debt position. Owner-operators often have larger debts than tenants, as they have the job of financing investments in farm real estate. As a result, they may have real-estate-secured debt incurred to buy farms or to improve the ones they have.

(6) The age of a farmer affects his need for credit. Younger farmers may need more credit than older men. The younger farmers have had less time to accumulate and pay for assets, and they may also need credit for expansion.

(7) The use of credit and the incidence of debt is affected by the availability of credit. By availability is meant the extent to which banks, production credit associations, insurance companies, merchants and dealers, and others are willing to extend credit to farmers who ask for it on terms the farmers consider satisfactory.

This list of factors that affect the use of credit is not complete, and not all of the factors are considered in this chapter. Most of the discussion considers only three major factors—the tenure of the farmer, the scale of operation as reflected in the volume of farm products sold in 1956, and the availability of credit as shown by the experience of farmers who tried to borrow money or buy goods on time in the year preceding the survey.

## Use of Credit by Great Plains Farmers

### Demand for Credit

About half of the farm operators interviewed in the 1957 Great Plains Survey reported that they had requested credit in the previous year—they had applied for loans or had tried to buy farm machinery, automobiles, and other goods on credit or time (table 38).

A larger proportion of tenants applied for credit than was true for owner-operators. From one standpoint—the scale of operation—it might be expected that tenants would be somewhat less likely than owner-operators to want credit. Although they were usually somewhat larger than those operated by full owners, tenant farms were smaller than part-owner farms and than the average for all owner-operators. But the net cash income of tenant families from all sources after payment of rent was only about 65 to 85 percent of the average for all owner-operators, and the financial assets of tenants were also much lower.

Probably the greater demand for credit by tenants is basically associated with their lower average age. In Kansas, for example, the average ages of farmers as reported by the 1954 Census of Agriculture were: Tenants, 41 years; part owners, 49 years; and full owners, 57 years. Younger farmers with lower net worths and fewer assets would be expected to need more credit to finance and expand their farming operations than older farmers who have had more time to accumulate assets and become more self-sufficient financially. In general, the data support this view.

The larger the farm operated the more likely was the farmer to have asked for credit. The proportions of owner-operators desiring credit in the five areas ranged from 33 to 46 percent for those selling less than $5,000 worth of products, 45 to 55 percent for those selling $5,000 to $9,999 worth, and 46 to 58 percent for those selling products in the amount of $10,000 or more.

The data for owner-operators suggest that the need for credit tends to increase as the scale of operation increases because of higher operating expenses and the larger amount of capital assets needed. It is true that large-scale owner-operators have more financial assets, but their distribution may be uneven. In any case, the greater financial assets seem to have been offset by the need for money with which to finance the operation.

### Credit Obtained

Credit was available in some amount or in some form to most Great Plains farmers, and from 89 to 95 percent of the farmers who desired credit were successful in their requests. There seems to be little relation between volume of farm products sold and success in obtaining credit, but in most areas, large-scale farmers may have been a little more successful in obtaining credit than were small-scale farmers. Tenants were about as successful in obtaining at least a part of the credit requested as were owner-operators.

Although most of the farmers who applied for credit obtained it, many did not obtain as much

TABLE 40.—FARM CREDIT OBTAINED: *Percentage obtained of amount requested in the 12 months preceding interview, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Owner-operators with farm products sold in 1956 valued at— | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| $10,000 and over | 89 | 87 | 97 | 99 | 96 |
| $5,000 to $9,999 | 68 | 88 | 96 | 97 | 79 |
| Less than $5,000 | 88 | 60 | 75 | 95 | 58 |
| All owner-operators [1] | 80 | 80 | 91 | 98 | 86 |
| Tenants | 55 | 64 | 83 | 99 | 99 |
| All operators | 76 | 78 | 88 | 98 | 90 |

[1] Includes farm operators not classified by value of farm products sold in 1956.

as they wanted (table 40). In the cotton–wheat area, farmers who requested credit obtained practically all they wanted. But elsewhere, the proportion obtained varied from about 76 percent in the spring wheat area to 90 percent in the winter wheat area. Tenants in three areas obtained considerably smaller proportions than did owner-operators. As a rule, small-scale farmers obtained less of the credit they wanted than did large-scale farmers. There was little consistency between areas in regard to the proportion of credit requested that was obtained.

The average amounts of credit requested and obtained reflect both the tenure of the farmer and the size of his operation. Tenants, on the average, requested and obtained considerably less credit than owner-operators. Tenants are unable to give real estate mortgages except in the rare instances in which they own land they themselves do not farm. In general, also, they operate smaller farms than do owners. For owner-operators, the average amount of credit obtained usually increased as sales of farm products increased. In the spring wheat area, for example, the average amount of credit obtained by tenants was $1,730; the average obtained by owner-operators was $3,190. For owner-operators selling $5,000 or less of farm products in 1956, the average amount of credit obtained was $1,780; for those selling $5,000 to $9,999 of farm products, the average amount was $2,460; and for those selling farm products valued at $10,000 or more, the average amount was $5,640.

### Sources of Credit

Commercial banks were the most common source of credit in the Great Plains Region. More farmers turned to banks when they wanted credit than to any other source, and from 57 to 75 percent of the farmers requesting credit in the five areas had applied for loans from banks. Owner-operators were somewhat more likely to ask banks for credit than were tenants. Similarly, a larger percentage of owner-operators selling $10,000 or more of products requested bank credit than of those selling less.

The popularity of banks with farmers who want credit is due partly to their availability. Most towns of any importance as trading centers in the Great Plains have one or more banks. The greater use of banks by owner-operators than by tenants and by large-scale owner-operators than by smaller ones could reflect the larger amounts of credit needed or desired. Small amounts of credit might be obtained more conveniently from merchants and dealers than from banks or other lenders.

Merchants and dealers were the second most common source of credit. In four of the five areas, they were second only to banks. The proportion of tenants who wanted credit and requested it from merchants and dealers was larger than that of owner-operators.

### Purposes of Credit

Payment of operating expenses was the most common reason for requesting credit. From 57 to 76 percent of the farmers who asked for credit reported that they wanted it to pay operating expenses. Generally, requests for operating credit were more frequent among tenants than among owner-operators. Purchase of machinery was a purpose reported by 9 to 30 percent of the farmers desiring credit, and purchases of livestock and of real estate were each reported by about 5 to 12 percent.

## Debts of Great Plains Farmers

### Characteristics of Indebted Farmers

Debt is common among Great Plains farmers, although on the average, the debts represent a relatively small proportion of the borrowers' assets. In the five areas studied, about three-fourths of the farmers reported in the summer of 1957 that they had debts of some kind (table 39). Tenant farmers were more likely than owners to have debts, and a farmer who owned part and rented part of his farm was more likely to have debts than a farmer who owned all of his farm. Large owner-operators reported debts more frequently than owners who operated small farms, and young farmers were in debt more often than older farmers.

In each area, young farmers were more likely than older farmers to have debts. For example, in the wheat–corn area, 84 percent of the farmers 34 years of age or younger had debts, while only a third of the farmers 65 years or over reported owing money. The general tendency for young farmers to have debts more often than older farmers was found for both owners and tenants. As mentioned earlier, among the reasons for the relatively more frequent indebtedness of young farmers are that they have smaller financial assets and are usually in the process of building up their farming operations. Farmers who are 65 and over have had more time to pay off debts and accumulate financial reserves. Possibly more important is the fact that, in general, this older group operates on a smaller scale. With curtailed or reduced operations, there is less need to incur debt.

In the case of owner-operators, the larger farmers who sold $10,000 worth of farm products were more likely to have debts than the smaller farmers who sold less than $5,000 worth. The differences among owners were not large, but in four of the five areas, the larger owners were more likely to have debts than the smaller ones. One reason may have been that the small owner-operators include some who have noncommercial farms, but a more important reason is probably the increased need for credit in large-scale farming operations.

The average amount of debt per farmer was higher for owners than for tenants (table 41). It was higher also for large-scale owner-operators than for those operating on a small scale. The amount of debt varied considerably between areas of the Great Plains, with the average tending to reflect roughly the total value of assets used in farming, the total assets owned by farm operators, and the scale of operation as measured by value of farm products sold.

The higher average amount of total debt for owners than for tenants is also explained largely by (1) the larger scale of operation of owners, and (2) the debts incurred by owners in financing their investments in land and buildings. Again, variations between areas in the Great Plains in average amount of debt seem to be related, at least in a general way, to the average value of assets used in farming and to the average value of all assets owned by the farmer.

## The Creditors of Great Plains Farmers

Farmers in the Great Plains obtain credit and loans from a variety of sources (fig. 14). Their creditors include local banks and merchants and also such institutions as the Federal land banks and life insurance companies that operate over wider areas. Somewhat more than half the debt owed by farmers had real estate or both real estate and non-real-estate security. About a third had non-real-estate security only, such as livestock or machinery, and the rest was unsecured.

Security is important in obtaining credit in the Great Plains; it becomes more important as the

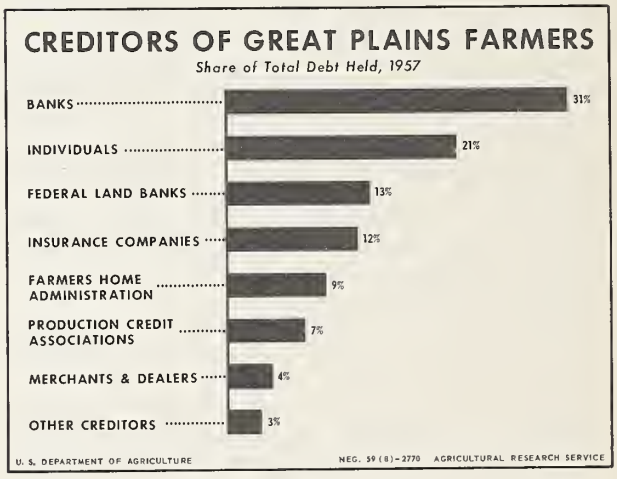


FIGURE 14

TABLE 41.—DEBT OF FARM OPERATORS: *Average amount per indebted farm operator, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Full owners | 5, 490 | 5, 990 | 6, 670 | 6, 520 | 9, 140 |
| Part owners | 6, 440 | 12, 290 | 7, 520 | 8, 410 | 12, 550 |
| Owner-operators with farm products sold in 1956 valued at— | | | | | |
| $10,000 and over | 9, 710 | 20, 390 | 12, 870 | 13, 680 | 15, 880 |
| $5,000 to $9,999 | 5, 420 | 8, 020 | 5, 650 | 7, 080 | 8, 960 |
| Less than $5,000 | 4, 280 | 4, 750 | 4, 810 | 4, 440 | 4, 930 |
| All owner-operators [1] | 6, 100 | 10, 210 | 7, 220 | 7, 520 | 11, 360 |
| Tenants | 3, 290 | 3, 770 | 3, 010 | 4, 630 | 5, 250 |
| All operators | 5, 540 | 9, 350 | 5, 570 | 6, 590 | 9, 380 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

amount of credit obtained increases. Debt secured by real estate averaged higher per farm than that secured by other assets, and the average amount of non-real-estate debt was higher than the average for unsecured debt. The following average debt figures for the winter wheat area illustrate the importance of security:

| Type of security | Average per farmer reporting debt |
|---|---|
| | *Dollars* |
| Real estate security | 10, 410 |
| Non-real-estate security | 5, 750 |
| Unsecured | 2, 510 |
| All | 9, 380 |

Among the reasons for requiring security on the larger loans are the uncertainty of weather in the Great Plains and the wide year-to-year variations in crop production and range conditions.

Banks, merchants and dealers, and individuals were the types of creditors most frequently reported by Great Plains farmers (table 42). Other creditors included production credit associations, Federal land banks, insurance companies, the Farmers Home Administration, and miscellaneous creditors such as doctors, hospitals, and agricultural loan companies. Delinquent taxes are also a debt.

Banks were the chief source of credit. They offer a wide, flexible, and convenient type of credit, and make loans with real estate security, non-real-estate security, or without security. From 41 to 49 percent of all farmers in the five Great Plains areas reported debts owed to banks, and these proportions exceeded those for any other type of lender or creditor. From about a fourth to a third of the total debt owed by farmers was owed to banks. Bank loans were smaller, on the average, than advances from such lenders as production credit associations and the Farmers Home Administration.

Banks served a wide variety of borrowers including both owners and tenants and both small and large operators. From half to two-thirds of the amount of bank loans in the five Great Plains areas had only non-real-estate security, and generally a fifth to a fourth was secured by real estate.

Merchants and dealers accounted for only 4 to 8 percent of the debt owed by Great Plains farmers, but from 16 to 37 percent of all farmers reported owing some money to merchants and dealers. While the debt owed to merchants was only a small part of all debt owed by farmers, merchants offered a convenient source of generally small amounts of credit and were used by many farmers in the region. Merchants were used as a credit source more often in the spring wheat and northern range areas than in other

TABLE 42.—DEBT OF FARM OPERATORS: *Percentage of farm operators reporting debt to specified lender or creditor, areas of the Great Plains, 1957* [1]

| Lender or creditor | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Bank or trust company | 45 | 41 | 47 | 45 | 49 |
| Production credit association | 7 | 11 | 4 | 7 | 7 |
| Federal land bank | 13 | 16 | 9 | 14 | 12 |
| Insurance company [2] | 4 | 6 | 8 | 10 | 8 |
| Farmers Home Administration | 11 | 11 | 6 | 10 | 8 |
| Merchants and dealers | 37 | 32 | 24 | 16 | 21 |
| Individuals [3] | 20 | 20 | 18 | 12 | 19 |
| Taxes due and unpaid | 26 | 24 | 21 | 1 | 9 |
| All other creditors [4] | 22 | 22 | 17 | 9 | 15 |

[1] Percentages do not add to 100 because some farmers have more than one lender or creditor.
[2] Excludes policy loans.
[3] Excludes debts owed by the farm operator and members of his family to each other.
[4] Includes doctors, dentists, hospitals, agricultural loan companies, small loan companies, savings and loan associations, and miscellaneous creditors.

areas. In most areas, little or none of the debt owed to merchants and dealers had real estate security. From 23 to 53 percent of the merchant credit outstanding was unsecured, and 44 to 61 percent had non-real-estate security. A common form of non-real-estate security was a chattel mortgage on farm machinery, a motortruck, or an automobile taken by the dealer who sold it.

Individuals are important in financing farm real estate transactions. The seller of a farm may take a mortgage on the farm as a part of its price. Individuals were also important in the Great Plains as a source of unsecured loans. From 12 to 20 percent of all farmers reported debts owed to individuals, and individuals held from 15 to 25 percent of all debt owed by farmers.

Taxes due and unpaid represented only 2 percent or less of the debts of Great Plains farmers. The percentage of farmers who owed taxes varied from 1 percent in the cotton–wheat area to 26 percent in the spring wheat area. The survey did not reveal the kinds of taxes that were due and unpaid, but it may be assumed that most of them were State and local taxes. Much of the variation between areas in the proportion of farmers reporting unpaid taxes may be caused by variations in dates on which taxes fall due, in policies in regard to assessment of penalties, or in provisions for installment payments.

Insurance companies and the Federal land banks make only loans secured by real estate. The Federal land banks served more borrowers than did insurance companies, and accounted for a larger proportion of the total debt owed by farmers. However, the average debt owed to insurance companies was larger than that owed to

the land banks in all areas except the spring wheat area.

Production credit associations usually make only short- and intermediate-term loans with such non-real-estate security as crops, livestock, or machinery. However, some loans secured by real estate and some unsecured loans were reported in this survey. From four to seven times as many farmers reported bank loans as reported production credit association loans, but production credit associations in this region usually made larger loans than did the banks.

The Farmers Home Administration is an important lender throughout the Great Plains area. While loans are limited to farmers who cannot obtain satisfactory financing elsewhere, the credit service of the Farmers Home Administration covers almost all credit needs of eligible farmers. Emergency loans and other operating loans were especially helpful in drought areas in the middle fifties. From 6 to 11 percent of all farmers reported debts owed to the Farmers Home Administration.

## Factors Affecting the Source of Credit Used

### *Tenure*

Several differences are seen in the sources of credit used by owner-operators and those used by tenants. Compared with owner-operators, tenants are usually younger, have less borrowing power and smaller credit needs because of smaller investments and smaller operations, and are usually unable to offer real estate security. As a result of these factors and because small amounts of credit may be obtained from them quickly and conveniently, banks and merchants and dealers were usually the most common creditors reported by tenants. In most of the Great Plains, tenants were more likely to owe banks and merchants than were owners. In terms of the amount of debt outstanding, again a larger share was owed to banks and merchants by tenants than by owners.

Tenants were more likely than owners to have loans from the Farmers Home Administration. Probably the chief reason was that because of smaller net worths and less borrowing power, a larger proportion of tenants were unable to obtain credit elsewhere or to obtain it in the amount desired. Another reason may be the lending policy of the Farmers Home Administration, which requires borrowers to refinance with private or cooperative lenders as soon as they can do so.

A somewhat larger proportion of owners than of tenants owed money to individuals. The differences were not large; probably they resulted from the fact that many owners owed money to the individuals from whom they had bought farms. This is indicated by the fact that individuals accounted for a much larger share of the total amount of debt owed by owners than by tenants.

### *Size of Farm*

The size of farm or scale of operation as measured in sales of farm products affects the source and amount of credit used by a farmer. Insurance companies are a more important source of credit for large owner-operators than for smaller ones, probably because the lending policies of insurance companies encourage the larger loans.[8]

However, there was no consistent relationship between the volume of farm products sold per farm and the importance of land banks as a source of credit. In the winter wheat area, for example, 24 percent of the farmers who sold less than $5,000 worth of farm products reported land-bank loans. The proportion was 25 percent for those who sold $10,000 or more. Insurance company loans were reported by 6 percent of the farmers who sold less than $5,000 worth and 19 percent of those who sold $10,000 worth or more.

For other types of lenders, there is a mixed picture of the effect of size of operation on type of creditor owed. In most areas, small owners were more likely than large owners to have taxes that were due but had not been paid. No reason was learned for this, but these smaller farmers may have been taking advantage of tax-installment privileges or permitting taxes to become delinquent in order to use their limited funds for other purposes.

The Farmers Home Administration was used more often by small than by large owners. Here again, this was probably because small-scale owner-operators with small investments and net worths found it easier to qualify for FHA loans and harder to obtain credit elsewhere. Also, as FHA borrowers expand production and improve their financial position, they are able to qualify for credit from other sources and so leave the FHA program.

The relationship between size of owner-operated farm and use of merchant credit is not entirely consistent. But in four areas, the smaller farmers tended to use merchant credit more often than the larger farmers. Normally, it might be expected that merchants and dealers would be more important sources of credit to small farmers because of their smaller credit requirements.

Apparently, individuals were more important in financing large owner-operators than small ones. A higher proportion of large indebted owners had debts to individuals, and individuals accounted for a greater share of the total debt reported than was the case for the smaller owner-operators. The reasons for this are not clear, but it may be that individuals are more important in financing sales of farm real estate for large farmers.

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[8] See Bierman, R. W., and Case, B. A., farm-mortgage loans of the federal land banks and of life insurance companies, 1950–57. Agr. Finance Rev. 20: 1–14. 1958.

The smaller owner-operators owe more to the miscellaneous group of "all other creditors" than to any other creditor. This group includes doctors, dentists, hospitals, small loan companies, and miscellaneous creditors.

Production credit associations tended to be most important in financing large owner-operators. As sales of farm products increased, indebted farmers were more likely to report debts to production credit associations, and production credit associations accounted for a larger share of the total debt owed.

Banks accounted for a larger proportion of debt outstanding and of indebted owners than did production credit associations, but relationships with size of farm were similar. In the spring wheat and northern range areas, there was little or no relation between size of farm and use of bank credit by owners. In the other three areas, the large owners were more likely to have borrowed from banks and to have a larger share of their credit requirements met by banks. The greater importance of both banks and production credit associations in financing the larger borrowers may be due to the fact that large farmers require larger amounts of credit and that—for short- and intermediate-term credit at least—banks and production credit associations are better able to supply it than are other sources. This statement is not entirely consistent with the previous observation that tenants, who on the average operate smaller farms than owners, make relatively more use of bank credit than do owners. But this apparent inconsistency may be due to the fact that tenants cannot obtain credit secured by real estate and also to the flexibility observed by most banks in regard to the security requirements and terms of their loans to farmers.

## Farm Debt by Type of Security

About half or a little more of the debt reported by Great Plains farmers was secured by mortgages on real estate. Around a third had non-real-estate security, such as mortgages on crops, livestock, and machinery. The balance was unsecured.

This section reviews by type of security the sources of credit used by Great Plains farmers. It does not include the debts landlords had incurred to buy farms or to finance their shares of farm investment and operation.

### Debt With Real Estate Security

Generally, the larger an owner-operated Great Plains farm is the more likely it is to be mortgaged (table 43). Operators of the larger farms have greater investments to finance and more operating expenses to pay. This additional need for credit is an incentive for farmers to place more of their debts on a long-term basis, usually secured by real estate mortgages. The relation between real estate debt on owner-operated farms and the volume of farm products sold agrees with data from the 1954 Census of Agriculture.[9] There, it was found that a larger proportion of commercial farms were mortgaged than was true of other farms, and that farms from which large quantities of farm products were sold were mortgaged more often than those from which small quantities were sold.

In each area, more farmers reported owing money to a Federal land bank than to any other type of lender on real estate security. Low interest rates have been an attractive feature of land-bank loans, and these loans have been popular with farmers who require loans that are relatively low compared with the current market value of the security. From 32 to 44 percent of farmers with real estate debt reported a land bank as lender, and the land banks held from 23 to 30 percent of the total real estate debt of Great Plains farmers.

Individuals were important real estate lenders in each area; this was probably because many sellers of farm real estate take back a mortgage as part of the consideration received from the sale. In the various areas, individuals usually accounted for a fifth to a fourth of the farmers with real estate debt and for about a fifth to a third of the debt. Individuals tended to be less important as a source of real estate credit in areas where insurance companies were most active.

Insurance companies were more active in the eastern and southern areas of the Great Plains than in the spring wheat and northern range areas. In the wheat–corn, cotton–wheat, and winter

TABLE 43.—DEBT WITH REAL ESTATE SECURITY: *Percentage of owner-operators reporting debt, by value of farm products sold in 1956, areas of the Great Plains, 1957*

| Value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| $10,000 and over | 33 | 51 | 54 | 55 | 50 |
| $5,000 to $9,999 | 38 | 40 | 48 | 48 | 44 |
| Less than $5,000 | 39 | 40 | 37 | 37 | 35 |
| All owner-operators [1] | 36 | 43 | 44 | 45 | 43 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

[9] U.S. BUREAU OF THE CENSUS. U.S. CENSUS OF AGRICULTURE: 1954. V. 3, SPECIAL REPORTS, PT. 5, FARM-MORTGAGE DEBT. A COOPERATIVE REPORT. Pp. 14, 77–80. 1956.

wheat areas, they are able to obtain a greater volume of large well-secured loans. Insurance companies held from 20 to 34 percent of the real estate debt of owner-operators in the latter areas.

## Debt With Non-Real-Estate Security

About a third of all debt owed by Great Plains farmers had some form of non-real-estate security, such as mortgages on livestock, machinery, or crops. Non-real-estate security was more common for tenants' than for owners' debts. As noted earlier, most tenants are unable to offer real estate as security; they must borrow on other security or obtain unsecured credit.

TABLE 44.—DEBT WITH NON-REAL-ESTATE SECURITY: *Percentage of farm operators reporting debt, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat |
|---|---|---|---|---|---|
| Owner-operators with farm products sold in 1956 valued at— | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| $10,000 and over | 38 | 55 | 40 | 34 | 46 |
| $5,000 to $9,999 | 45 | 50 | 34 | 25 | 36 |
| Less than $5,000 | 44 | 48 | 26 | 30 | 27 |
| All owner-operators [1] | 41 | 49 | 32 | 30 | 36 |
| Tenants | 66 | 62 | 54 | 67 | 60 |
| All operators | 46 | 51 | 40 | 41 | 43 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

The relationship previously discussed between size of farm and presence of debt is again shown in the data for owners (table 44). As a general rule, owners with large sales of farm products were more likely to have debts with non-real-estate security and large amounts of such debt than owners with small sales.

Banks were by far the most important source of credit with non-real-estate security. Usually, they accounted for about half or more of the debt outstanding and for about two-thirds of the farmers reporting this debt. Production credit associations and the Farmers Home Administration were next in importance in terms of amount of credit supplied. Debts to merchants and dealers were reported by 12 to 29 percent of the farmers with non-real-estate secured debt, but merchants accounted for only a small amount of such debt. Individuals and miscellaneous lenders were relatively unimportant as suppliers of this type of credit.

## Unsecured Debt

Unsecured debt accounted for only a small part of the total debt of farm operators. In the five Great Plains areas, only 11 to 17 percent of the total debt owed was unsecured. The average amount of unsecured debt per borrower ranged from about $1,200 in the spring wheat area to $2,500 in the winter wheat area (table 45).

Tenants reported unsecured debts more frequently than owners, but in some areas, the differences were not large. Tenants probably require smaller amounts of credit than owners. There was no consistent relationship between size of operation, as measured by sales of farm products, and the presence of unsecured debt.

Banks and individuals were the chief sources of unsecured credit. In some areas, banks accounted for the largest share of this debt, while in others, individuals had the largest share. Banks can pursue a flexible credit policy and, of all lending institutions, they are most likely to advance significant amounts of unsecured credit. Often, security is considered unnecessary for loans made by individuals to friends or relatives.

Unsecured debt owed to merchants and dealers was common; from 30 to 49 percent of the farmers with unsecured debt owed some of it to merchants. Such credit from merchants, however, amounted to only 11 to 20 percent of the total owed.

Taxes due and unpaid were classified as unsecured debt in this study and were frequently reported. Unsecured debt owed to miscellaneous creditors was reported frequently also, but these debts amounted to only a small part of the total.

TABLE 45.—DEBT OF FARM OPERATORS: *Percentage distribution of debt, by type of security, and average amount per indebted farm operator reporting each type of security, areas of the Great Plains, 1957*

| Type of security | Spring wheat | | Northern range | | Wheat-corn | | Cotton-wheat | | Winter wheat | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Percent* | *Dollars* | *Percent* | *Dollars* | *Percent* | *Dollars* | *Percent* | *Dollars* | *Percent* | *Dollars* |
| Real estate security [1] | 52 | 6, 280 | 52 | 9, 940 | 51 | 6, 870 | 59 | 8, 330 | 49 | 10, 410 |
| Non-real-estate security | 33 | 2, 800 | 36 | 6, 110 | 32 | 3, 250 | 30 | 3, 570 | 36 | 5, 750 |
| Unsecured | 15 | 1, 170 | 12 | 1, 770 | 17 | 1, 400 | 11 | 1, 870 | 15 | 2, 510 |
| All debt | 100 | [2] 5, 540 | 100 | [2] 9, 350 | 100 | [2] 5, 570 | 100 | [2] 6, 590 | 100 | [2] 9, 380 |

[1] Includes debt with both real estate and non-real-estate security.
[2] Includes debts not classified by type of security.

## Conclusions

Credit is a vital part of Great Plains farming. About three-fourths of all Great Plains farmers had debts of some kind in mid–1957, and nearly half of all farmers in the region had applied for loans or requested credit in the preceding 12 months. More than two-thirds of the farmers requesting credit wanted it for operating expenses. However, on the average the debts represented a relatively small proportion of the borrowers' assets.

Tenants were more likely than farmers who owned part or all of their farms to have debts and more likely also to have requested credit in the previous year. On the average, tenants were younger than owners; they operated smaller farms in terms of farm products sold; and they had smaller net cash incomes and fewer financial assets.

In general, part owners were younger than full owners and operated larger farms. A larger percentage of part than of full owners had debts. The large- and medium-scale owners were more likely to have debts and to have requested credit in the preceding year than small-scale owners.

Most farmers who requested credit obtained it, although some did not obtain credit from the first lender or merchant approached, and some did not obtain as much as they wanted. Ordinarily, tenants were not quite so successful in obtaining credit as owners, and small owners were not so successful as large owners.

A little more than half the debt owed by Great Plains farmers in mid–1957 was secured by real estate mortgages, and about a third had such nonreal-estate security as chattel mortgages on livestock, equipment, or growing crops. The remainder was unsecured.

Tenants are usually unable to offer real estate security. On the whole, their credit requirements and repayment ability are lower than those of owner-operators. Banks and merchants and dealers offer convenient sources of small amounts of credit; they were more often reported as creditors by tenants than by owners.

Banks were the most common source of credit reported by both owners and tenants, and merchants and dealers came next. Large-scale owner-operators generally reported banks as creditors more often than did the smaller owners.

In general, a higher proportion of large-scale owner-operators reported debts to production credit associations, insurance companies, and individuals than was true for the smaller owners. The latter were more likely to be indebted to the Farmers Home Administration, merchants and dealers, and miscellaneous creditors, and to have taxes due and unpaid.

The data show a clear relationship between size of operation, as measured by sales of farm products, and the presence of debt. As the size of farm increased, the frequency of indebtedness increased and the average amount of debt became larger. As sales of farm products are related to the amount of farm assets operated and to operating expenses, it seems clear that Great Plains farmers use credit to expand their operations and to finance the operating expenses resulting from these larger operations.

The adequacy of the supply of credit, however, is difficult to judge, as is the extent to which farmers may be handicapped in enlarging their farms by the nonavailability of credit. More than 90 percent of the farmers who requested it in the year preceding the survey obtained some credit. This in itself seems to show that there is no serious problem in regard to credit availability. However, when the amount of credit actually obtained is related to the amount requested, in most areas the difference was considerable. The proportion of credit requested but not obtained was higher for tenants than for owners and higher for small than for large owners. The groups who most needed to increase their operations and expand production had the greatest difficulty in obtaining credit.

Yet the fact remains that most farmers who wanted credit got it, and most of those who got credit obtained all they asked for. Perhaps the proportion of farmers who did not ask for credit is more important. Why was it that from half to two-thirds of the owner-operators who sold less than $5,000 worth of products did not request credit in the year preceding the survey? Were these small farmers mainly men who did not care to expand their production because of age or for some other reason? Was it because they believed that credit requests were likely to be scaled down or refused and so did not bother to ask? Or were they reluctant to use credit because they did not want to go into debt under the conditions of uncertain weather and crop production prevailing in 1956 and 1957?

The data do not tell us why small farmers were more reluctant to request credit than were large farmers. But it would seem that the use of credit on a large scale for enlarging small farms and adjusting production on them requires two things: (1) An increased willingness on the part of small farmers to borrow money; and (2) increased availability of credit for those small farmers who are willing to borrow.

# *Chapter 8.*—Financial Assets of Farmers and Ranchers in the Great Plains

Lawrence A. Jones

Financial assets, including nonfarm investments,[10] of the 390,000 farmers and ranchers in the Great Plains are estimated at about $2.1 billion for 1957. These holdings were approximately equal to total debts owed by farm operators and amounted to about 11 percent of their total assets. Although financial assets were less important than the investment in farm real estate, they were slightly larger, on the average, than the value of livestock. Machinery and motor vehicles, which amounted to 12 percent of total assets, were somewhat more important than financial assets.

More than half of the total financial holdings were in readily cashable form in bank deposits, United States bonds, and other marketable securities. About a fourth of the holdings were in less liquid investments, such as notes, mortgages, unincorporated nonfarm businesses, and cooperatives. The remaining fifth was the cash value of life insurance owned by farm operators. No estimate was made of the money that farmers had on hand or in their homes.[11]

Other significant findings were that in general, owner-operators had more financial assets than did tenants. Compared with older farmers, operators under 35 had few financial holdings. However, as many young as older farmers carried life insurance, even though the cash values of their policies were smaller. By income groups, financial assets were largest for those with the largest sales of farm products and smallest for those with the smallest sales. Among areas, the largest holdings, which averaged $6,790 for all farmers and ranchers, were in the winter wheat area. Smallest average holdings ($4,070) were in the wheat–corn area, where farms are smaller.

These findings on the financial holdings of farmers in the Great Plains are more detailed than those available for any other geographic region. Estimates of the financial assets owned by farmers are published annually by the Agricultural Research Service in the Balance Sheet of Agriculture, issued by the Department as an Agriculture Information Bulletin, but these estimates are for the United States as a whole. Nor do they include all types of financial assets.

In the Great Plains, where farm incomes fluctuate widely and cash expenses are relatively high, financial reserves play an important role. The establishment in good times of reserves to cushion the impact of hard times is an adjustment that can be made in this region. Accumulated funds also permit the physical adjustments often necessary for survival, such as mechanization and enlargement of acreage. Further, when funds are invested in nonfarm businesses, they may provide a supplemental source of more stable income.

## Composition of Financial Assets

The most important financial assets held by farmers and ranchers in the Great Plains—in dollar amounts—were checking accounts, cash value of life insurance, and "other" (mainly notes, mortgages, and investments in unincorporated nonfarm businesses). Each of these three types of assets accounted for about a fifth of the total holdings (table 46, fig. 15). United States Government bonds and savings deposits together amounted to about a fourth of the total. Investments in cooperative associations and in securities of corporations were least important; they amounted to only

Table 46.—Financial assets of farm operators: *Percentage distribution by type of asset, areas of the Great Plains, 1957*

| Type of financial asset | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat | Total |
|---|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Checking account | 24 | 19 | 19 | 23 | 19 | 20 |
| Savings account | 14 | 7 | 9 | 8 | 11 | 10 |
| United States bonds | 23 | 14 | 21 | 10 | 15 | 16 |
| Cooperative stocks and bonds | 9 | 4 | 3 | 6 | 4 | 5 |
| Other stocks and bonds | 3 | 5 | 11 | 6 | 9 | 8 |
| Cash value, life insurance | 17 | 18 | 26 | 15 | 21 | 20 |
| Other [1] | 10 | 33 | 11 | 32 | 21 | 21 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

[1] Includes debts due from others, interests in unincorporated nonfarm businesses, and miscellaneous financial assets. Excludes cash on hand.

[10] Nonfarm investments included mainly interests in such local unincorporated businesses as stores. No investment in farm property is included.

[11] Data on cash holdings were not obtained on the assumption that they would be reported more reluctantly and that estimates based on such information would be of doubtful accuracy. Thus, to the extent that farmers hold cash the $2.1 billion is an underestimate of their total financial assets.

TABLE 47.—FINANCIAL ASSETS OF FARM OPERATORS: *Percentage of farm operators reporting specified types of assets, areas of the Great Plains, 1957*

| Type of financial asset | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | All operators |
|---|---|---|---|---|---|---|
| | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| Any financial assets | 97 | 95 | 97 | 96 | 97 | 97 |
| Checking account | 82 | 80 | 83 | 85 | 81 | 82 |
| Savings account | 16 | 11 | 11 | 11 | 13 | 12 |
| United States bonds | 32 | 29 | 32 | 16 | 30 | 28 |
| Cooperative stocks and bonds | 67 | 48 | 45 | 49 | 46 | 50 |
| Other stocks and bonds | 9 | 8 | 8 | 8 | 12 | 9 |
| Cash value, life insurance | 60 | 60 | 70 | 62 | 73 | 66 |
| Other | 18 | 20 | 16 | 19 | 19 | 18 |

5 and 8 percent, respectively, of the total financial assets in the region.

Checking accounts and the cash value of life insurance were the types of financial assets most frequently owned. Four-fifths of all farmers had

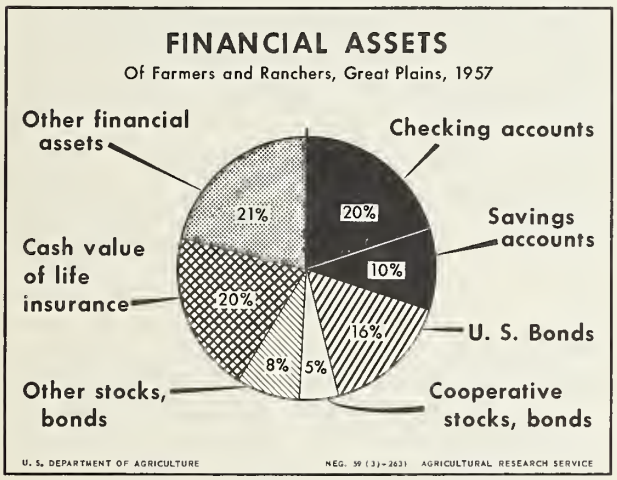


FIGURE 15

checking accounts, and two-thirds of them had life insurance with a cash value (table 47). About half the farmers owned stock in agricultural cooperatives. For the more traditional types of savings, 28 percent of the farmers chose United States bonds and 12 percent chose savings accounts in banks or building and loan associations. Other stocks and bonds, which include securities of corporations, States and local governments, were held by only 9 percent of the farm operators and were the least common of any financial assets reported.

For those having financial assets, the average total amount held was $5,560 (table 48). The averages for the relatively large number of farmers and ranchers reporting checking accounts and the cash value of life insurance were $1,380 and $1,590, respectively. Those reporting savings accounts and United States bonds had average amounts of $4,310 and $3,050. The largest average holdings ($4,620 and $6,100) were for corporate stocks and bonds and "other" financial assets, respectively, but few individuals held these assets. The average amount invested in agricultural cooperatives—$540—was the smallest for any type of financial asset.

Data from the survey suggest that how funds are held or invested is determined basically by the amount of funds available and the purpose for which they are held. One of the first needs is for readily available money to cover farm operating expenditures. A checking account provides a convenient means for making frequent payments for goods and services, as well as a safe place in which to keep funds. This is the reason for the prevalence of checking accounts among farmers and ranchers, even among those with few other financial assets.

TABLE 48.—FINANCIAL ASSETS OF FARM OPERATORS: *Average amount per farm operator reporting specified type of asset, areas of the Great Plains, 1957*

| Type of financial asset | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | All operators |
|---|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Checking account | 1, 260 | 1, 480 | 980 | 1, 610 | 1, 650 | 1, 380 |
| Savings account | 4, 090 | 3, 870 | 3, 240 | 4, 460 | 5, 700 | 4, 310 |
| United States bonds | 3, 000 | 2, 770 | 2, 660 | 3, 250 | 3, 490 | 3, 050 |
| Cooperative stocks and bonds | 590 | 500 | 270 | 770 | 640 | 540 |
| Other stocks and bonds | 1, 490 | 4, 760 | 5, 730 | 3, 820 | 6, 130 | 4, 620 |
| Cash value, life insurance | 1, 280 | 1, 770 | 1, 490 | 1, 460 | 1, 910 | 1, 590 |
| Other | 2, 880 | 9, 340 | 3, 050 | 9, 330 | 7, 570 | 6, 100 |
| All financial assets | 4, 630 | 6, 320 | 4, 200 | 5, 970 | 6, 990 | 5, 560 |

Also having high priority among many farmers is the need for funds to meet emergencies that arise while the farmer is living and to provide for the family in the event of his death. Younger operators sometimes have small reserves in bank accounts or United States savings bonds, but the main financial protection for their families is life insurance. For beginning farmers, insurance is a good substitute for savings. Accumulation of other financial assets in any large amount is most common among older farmers whose expenditures for rearing children and making farm investments have been reduced substantially.

A third major use of funds is their investment for long-run objectives, such as provision for old age. Farmers and ranchers who have available more funds than are needed to cover farm and family operating expenses and emergencies are the ones mainly interested in such investments. When funds are substantial, there are many places to invest them outside the home farm. Factors to be considered in selecting an investment include liquidity and safety, the rate of return, and the operator's knowledge of available investments. The need to help children when they start out on their own, the activity of securities salesmen, and the intensity of United States savings bond campaigns also influence farmers in making investments.

## Variation in Financial Asset Holdings

### Area Differences

The amount of financial assets held by farmers and ranchers varies among areas because of differences in such factors as weather, prices, size of farms, and amount of nonfarm income. Serious drought for several preceding years in the Southern Plains, mainly the winter wheat and cotton–wheat areas, was perhaps the most notable situation underlying the financial condition of farmers in 1957. One might have expected that financial reserves in these two areas would have been largely depleted. Although reserves of many farmers were undoubtedly low, average holdings in these areas exceeded the average for the Great Plains as a whole.

There are several reasons for the relatively large amount of financial assets in the two southern areas. Some ranchers were holding money received from livestock sold because of the drought. Production and income of some farmers were maintained at favorable levels because of deep-well irrigation. Also, there are many large and efficient farms and ranches in the Southern Plains, which with normal weather permit their operators to accumulate enough financial reserves to carry them through a drought. The average value of assets used in farming in the winter wheat area was $93,000, the largest in any of the five areas. (See chapter 6.) The average value in the cotton–wheat area was $68,840, the next largest except for the northern range area.

Possibly the chief reason for the maintenance of relatively large financial assets in the drought areas was the availability of nonfarm income. About 39 and 31 percent, respectively, of the operators in the cotton–wheat and winter wheat areas reported income from off-farm work in 1956. The percentages for the other areas were spring wheat, 16 percent; wheat–corn, 24 percent; and northern range, 25 percent. Also, the average amounts earned from off-farm work in the two southern areas were larger than those in any of the other areas. Further, average receipts from such nonfarm sources as royalties, oil leases, and local business properties were larger in the winter wheat and cotton–wheat areas than elsewhere in the Great Plains.

For all farmers and ranchers in the Plains, financial assets averaged $5,370 per operator (table 49).[12] The highest average, $6,790, was in the winter wheat area. The northern range and cotton–wheat areas followed with averages of $5,980 and $5,740, respectively. The smallest average—$4,070—was in the wheat–corn area. This area has many small farms; the net cash incomes reported for 1956 by the operators interviewed averaged less than in any other area.

Considering only those farm operators who had financial assets, the average amount held for the region was $5,560 (table 48). Again, the above-average holdings were in the winter wheat, northern range, and cotton–wheat areas. Below-average holdings were found in the spring wheat and wheat–corn areas. Average holdings of stocks and bonds varied widely among areas, ranging from $1,490 in the spring wheat area to $6,130 in the winter wheat area. The range for "other" financial assets was wide; they varied from $2,880 in the spring wheat area to more than $9,300 in the northern range and cotton–wheat areas.

For the Great Plains as a whole, 97 percent of all farmers had financial assets of one kind or another (table 47). This percentage varied only slightly among the areas—from 95 to 97 percent. The proportion of operators who had checking accounts, savings accounts, corporate stocks and

[12] The averages of financial assets shown in this report may be somewhat larger than those actually owned by operators alone. In the survey, enumerators were instructed to include also the financial assets of the wife, children under 18, and children over 18 and other relatives living in the dwelling who had incomes of $15 a week or less or who pooled half or more of their incomes.

TABLE 49.—FINANCIAL ASSETS OF FARM OPERATORS: *Average amount per farm operator, by type of asset, areas of the Great Plains, 1957* [1]

| Type of financial asset | Spring wheat | Northern range | Wheat-corn | Cotton-wheat | Winter wheat | All operators |
|---|---|---|---|---|---|---|
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Checking account | 1, 060 | 1, 150 | 780 | 1, 340 | 1, 270 | 1, 100 |
| Savings account | 630 | 440 | 370 | 480 | 740 | 540 |
| United States bonds | 1, 020 | 800 | 850 | 550 | 1, 010 | 860 |
| Cooperative stocks and bonds | 400 | 240 | 120 | 340 | 300 | 270 |
| Other stocks and bonds | 130 | 280 | 460 | 310 | 640 | 400 |
| Cash value, life insurance | 790 | 1, 080 | 1, 050 | 870 | 1, 410 | 1, 060 |
| Other | 450 | 1, 990 | 440 | 1, 850 | 1, 420 | 1, 140 |
| Total | 4, 480 | 5, 980 | 4, 070 | 5, 740 | 6, 790 | 5, 370 |

[1] Average for farm operators reporting on all types of financial assets, including those reporting zero.

bonds, and "other" financial assets was comparatively uniform in the various areas of the Great Plains.

So far as the rest of the financial assets were concerned, there were only a few exceptions to the general uniformity among areas. In the cotton–wheat area, relatively few farmers owned United States savings bonds. In the spring wheat area, the percentage of farmers having investments in cooperative associations was higher than average. Also, the percentages of farmers with cash values in life insurance policies were significantly larger in the winter wheat and wheat–corn areas than in other areas.

## Tenure Differences

Relatively more owner-operators than tenant-operators had financial assets. This relationship existed generally in all areas for most types of assets. In many instances, a higher proportion of owners than tenants within the same income class had financial savings. The main exception was life insurance, which was held by about the same proportion of tenants as of owners.

Not only did a larger proportion of owners than of tenants have financial assets, but the amounts they owned were larger on the average for practically all asset items in all areas. Average amounts held by owners were more than twice those of tenants in all areas except the winter wheat area, where holdings of owners were 75 percent larger than those of tenants.

Among owners, the proportion reporting financial assets differed little for full owners, who own all the land they operate, and for part owners, who own part of the land they operate and rent part from others. However, full owners usually had somewhat more financial assets than did part owners. On the average, both types of owner-operators had substantially more financial assets than did tenants.

The distinct differences between owners and tenants with respect to financial assets stems from several factors. On the average, tenants are younger than owners and have had less time in which to accumulate assets. The 1954 Census of Agriculture reported that in the 10 Great Plains States the average age of tenants was lower than that of part owners and that part owners were younger than full owners. In Kansas, for example, the average ages were—tenants, 41 years; part owners, 49 years; and full owners, 57 years. Many tenants do not have sufficient income to permit the saving of much money. Also, many tenants, even those with the same incomes as owners, are in process of building up their farm capital or improving the level of living of their families. As a result, they have less surplus funds to set aside or invest outside the farm. Obviously, situations among tenants and owners vary. For example, a tenant who is saving to make a downpayment on a farm might have more financial assets than an indebted owner who has recently invested in a farm. On the whole, the financial assets owned by a farmer would seem to bear a stronger relationship to his age and his capital and income situation than to anything inherent in his tenure status alone.

That as many tenants as owners have investments in life insurance policies reflects a widespread need among farmers for family protection. The younger families, whose financial responsibilities are heavy, often buy life insurance before they can acquire financial savings.

## Income Differences

How much farmers can accumulate in financial holdings depends upon many factors. Among these are farm capital needs, gifts and inheritances, spending habits, family expenses, and debts. Basic, of course, is the amount of net cash income and the length of time during which it is received. Thus, a person's age and his lifetime income are important in determining how much he can save.

A complete analysis of financial assets by age of operator is not included in this report. But there are strong indications from the data that a significant relationship exists between age and amount of financial assets. For operators under

35 years of age, the unweighted average of total financial holdings was about $2,000 for the region as a whole. The average for those 65 years old and over was more than $11,000.

Income data were obtained in the survey for 1956 only. In that year, the total realized net income of farm operators from farming in the 10 Great Plains States was $2,263 million. This was 9 percent higher than in 1955 but lower than in any of the years from 1950 to 1954. The 1956 income was 29 percent below that of the peak year of 1951. Although many farmers may have had substantial financial assets carried over from the prosperous years of the late forties, the decline in farm income during the several years preceding 1957 was the strongest influence affecting holdings in that year.

The income analysis is mainly for three groups of farm operators classified according to the amount of farm products sold in 1956: (1) $10,000 or more; (2) $5,000 to $9,999; and (3) less than $5,000. The discussion is probably indicative of the effect of net cash family income, as well as gross sales of farm products, on financial asset holdings. A comparison for owner-operators of sales of farm products with net cash family income shows that in each area those with the highest sales had the highest net cash income. Those with the lowest sales had the lowest net cash income.

In most instances, more of the farm and ranch operators in the high income class had financial assets than of those in the middle income class. Similarly, relatively more of the operators in the middle income class had such assets than of those in the lowest income group. This relationship between amount of cash receipts and the proportion of farmers with financial savings was general for all types of financial assets except investments in cooperatives. Income classes, especially the high- and middle-income groups, differed little in the percentages owning cooperative stock.

The average financial holdings of farmers with the highest cash receipts were consistently larger than those of farmers in the middle and lowest income classes in all areas and for all types of assets. In several instances, however, farmers with sales of less than $5,000 in 1956 had larger amounts of financial assets, on the average, than did farmers with sales of $5,000 to $9,999. This relationship appeared to be especially significant for the relatively few individuals who had savings deposits. For each area of the Great Plains, those owner-operators with the lowest farm receipts had larger average savings deposits than did those in the middle income class.

There appear to be two main reasons for the relatively favorable savings situation of those with the smallest farm incomes. First, the group includes some elderly farmers who had curtailed operations but who nevertheless had substantial savings accumulated over the years. Second, many with low farm receipts probably had nonfarm earnings that provided them with total incomes comparable to those received by the middle group. (See chapter 5.) In each area, operators with less than $5,000 in cash receipts worked more days off the farm, on the average, than did those with receipts ranging from $5,000 to $9,999. For owner-operators in the low-receipts group, the proportion of the family's total net cash income received from off-farm work and other nonfarm sources ranged from 25 percent in the spring wheat area to 69 percent in the winter wheat area. Nonfarm receipts in the middle income group were less important; they ranged from 8 percent in the spring wheat area to 36 percent in the cotton–wheat area.

## Analysis by Type of Financial Assets

### Checking Accounts

Approximately 80 percent of the farm and ranch operators reported money in checking accounts (fig. 16). The proportion was much the same in all type-of-farming areas. The extent of checking accounts reflects the commercial nature of farming in the Great Plains and the use of checking accounts as a convenient and safe means of holding operating funds and meeting day-to-day expenditures.

Widest use of checking accounts was made by the high-income owner-operators. The proportion of this group reporting funds in checking accounts ranged from 86 percent in the winter wheat area to 96 percent in the spring wheat area. The rest either had no accounts or no money in the accounts they had. The group of tenants with farm receipts of less than $5,000 had the

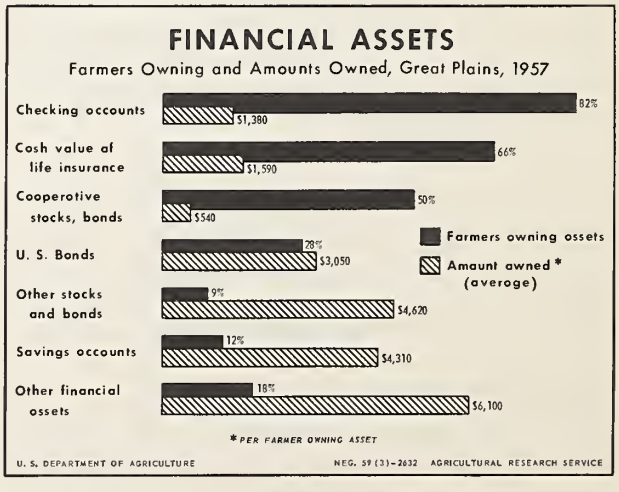


FIGURE 16

fewest checking accounts; the range was from 62 percent in the spring wheat area to 80 percent in the winter wheat area. These differences between tenants and owners and among income classes were relatively smaller for checking accounts than for other types of financial assets.

Accounts averaged largest for owner-operators with the highest incomes; they varied from $1,630 in the wheat–corn area to $3,900 in the cotton–wheat area. For tenants in the highest income class, average accounts were smaller; they ranged from $830 in the wheat–corn area to $1,800 in the winter wheat area. For both owners and tenants, the average amount in checking deposits was smallest in most instances in the lowest income classes. The amount of money in the accounts probably was related to the size of the farm business and operating expenses as well as to the size of farm receipts.

## Savings Deposits and United States Government Bonds

Money not needed for current farm or living expenses is sometimes placed in a savings (or time) deposit in a bank or building and loan association or is used to buy United States savings bonds. Savings accounts and savings bonds have several similarities. In each instance, funds are safe and can be converted readily to cash if needed. Interest is paid at about the same rate. In 1957, the rate on savings bonds held to maturity was 3¼ percent. The maximum rate that most commercial banks paid on savings deposits in 1957 was 3 percent. Some building and loan associations paid slightly higher rates, but relatively few of them operate in rural areas.

Only 12 percent of the farmers in the Great Plains had savings deposits compared with 28 percent who had United States Government bonds, most of which were savings bonds. Since the beginning of World War II, through campaigns of the United States Treasury Department, farmers and others have been encouraged to buy bonds. For both savings accounts and bonds, there was a positive relationship between size of income and prevalence of holdings. More owners than tenants had savings of these kinds. The proportions of farmers in the various groups who had savings deposits and bonds usually did not vary greatly among the different areas. An important exception was in the cotton–wheat area, where the proportion of farmers and ranchers who had savings bonds was not much more than half those in the other areas.

About a third of all farmers had either savings bonds, savings accounts, or both. Of this third, approximately 64 percent had bonds only. The remaining 36 percent of this group was about equally divided between those who had savings accounts only and those who had both savings accounts and bonds.

Although savings accounts were held by fewer farmers, the average amounts on deposit were larger than the average cash values of United States bonds. By areas, average amounts of savings accounts ranged from $3,240 to $5,700, and amounts in savings bonds averaged from $2,660 to $3,490. In each instance, holdings were lowest in the wheat–corn area and highest in the winter wheat area.

A simple count for the region as a whole showed that nearly 17 percent of the operators 65 years of age or over had savings deposits compared with about 12 percent of all operators. Also, the oldest operators had the largest accounts, which averaged approximately $5,500. For the group between 35 and 64 years of age, the average was $4,700. For those under 35, the average amount held in savings accounts was only about $1,500.

## Investments in Cooperatives

This financial asset consists mainly of the membership shares held by farmers in their own cooperative associations. Associations that market farm products are most important. Others include purchasing associations, credit cooperatives—production credit associations and Federal land bank associations, for instance—rural electric cooperatives, and mutual irrigation and fire insurance companies. Unlike some other investments, often cooperative shares can be readily cashed only if the individual withdraws from the association.

The average for the region of $540 for those who had investments in cooperatives is probably a conservative one. Many who have shares in the net worths or the undistributed or retained earnings of their associations do not know the amounts. Usually, cooperative stock is not traded, and it is sometimes difficult to determine its value. The largest average of $1,630 was for owners with the highest farm receipts in the cotton–wheat area. This area includes many large farm operations. The wheat–corn area showed the smallest average investment in cooperatives of $270, about half that for the entire region. Again, the cooperative investment seems to be positively correlated to the size of farm business.

Participation by farmers and ranchers in cooperatives in the Great Plains was widespread. On the whole, half of the operators had cooperative investments. Fewer tenants than owners and fewer of those in the lowest income class, as compared with those in the two higher classes, had cooperative investments. Two-thirds of all farmers in the spring wheat area participated in cooperatives. Probably the main reason is the large membership in one organization, which is affiliated with grain-marketing associations. In the other areas, the percentage of farmers having cooperative investments ranged from 45 to 49 percent.

TABLE 50.—LIFE INSURANCE: *Percentage of farm operators reporting life insurance, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| Owner-operators with farm products sold in 1956 valued at— | *Percent* | *Percent* | *Percent* | *Percent* | *Percent* |
| $10,000 and over | 82 | 77 | 86 | 87 | 86 |
| $5,000 to $9,999 | 63 | 69 | 74 | 62 | 75 |
| Less than $5,000 | 48 | 48 | 62 | 56 | 66 |
| All owner-operators [1] | 63 | 62 | 71 | 65 | 75 |
| Tenants with farm products sold in 1956 valued at— | | | | | |
| $10,000 and over | 74 | 92 | 84 | 80 | 85 |
| $5,000 to $9,999 | 67 | 76 | 78 | 86 | 72 |
| Less than $5,000 | 59 | 51 | 69 | 64 | 67 |
| All tenants [1] | 65 | 62 | 75 | 74 | 75 |
| All operators | 64 | 62 | 72 | 68 | 75 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

## Other Stocks and Bonds

These financial assets, which are mainly stocks and bonds of corporations, were held by only 9 percent of all farmers in the Great Plains. Farmers and ranchers in this region are relatively unfamiliar with the buying and selling of corporate securities, and if funds are available, investments can usually be made readily in the farm or in local businesses.

Holdings of stocks and bonds were most important in the winter wheat area. In this area, about 12 percent of the operators had investments of this kind averaging $6,130 (tables 47 and 48). About 22 percent of the owners in the highest income class in this area had stocks and bonds. Corporate securities were least important in the spring wheat area, where they averaged less than $1,500 for the 9 percent of the farmers who held these assets.

## Life Insurance

Nearly 70 percent of all farm families in the Great Plains had life insurance on one or more members of the family. The percentages varied from 62 percent in the northern range to 75 percent in the winter wheat area (table 50). On the average, farm families in the spring wheat area carried the smallest amount of life insurance—$5,710; the highest average was $8,490 in the winter wheat area (table 51).

Unlike financial assets discussed above, about as large a proportion of tenants as of owners carried life insurance. On the average, tenants are younger than owners and may be more "insurance minded." Some of them acquired Government life insurance while in the Armed Forces. Except in drought areas, favorable conditions for much of the time since 1940 have made it possible for farmers to buy life insurance. Many of the older farmers could not pay life insurance premiums during the depressed 1930's. Later, when they could afford to buy insurance, they found that it was not feasible to do so because of age or other factors.

For both owners and tenants, the average amount of life insurance carried increased with the farmer's income (table 51). In the low-income group, tenants usually had more insurance than owners, whereas in the high-income group, owners usually had more than tenants. For owner-operators selling $10,000 or more of farm products in 1956, the average amount of life insurance varied from $8,210 in the spring wheat area to $11,840 in the wheat–corn area; for those selling less than $5,000, the average ranged from $4,050 in the spring wheat area to $4,750 in the winter wheat area.

Life insurance policies are not often thought of as current financial assets. Perhaps most individuals buy life insurance primarily to provide for their dependents after their death or to provide for their own support in their later years. But a large part of the life insurance owned by farmers and members of their families has a cash value that can be obtained by borrowing on the policy or by surrendering it.

For farmers with policies having cash values, the average for the region was $1,590.[13] This was about 22 percent of the average face amount of insurance carried. The cash value in relation to face value was largest for owner-operators, ranging from 24 to 26 percent in the different areas. For tenants, the range was from 14 to 17 percent.

In all areas, the net cash value of policies held by owners was greater than it was for those of tenants. On the average, within each tenure group those with the largest farm receipts had the largest policy values and those with the smallest receipts had the smallest cash values. Farmers

[13] The cash value of life insurance policies reported here is the current cash value less the amount of any policy loans.

TABLE 51.—LIFE INSURANCE, FACE AMOUNT: *Average per farm operator reporting life insurance, by tenure of operator and value of farm products sold in 1956, areas of the Great Plains, 1957*

| Tenure of operator and value of farm products sold | Spring wheat | Northern range | Wheat–corn | Cotton–wheat | Winter wheat |
|---|---|---|---|---|---|
| Owner-operators with farm products sold in 1956 valued at— | *Dollars* | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| $10,000 and over | 8, 210 | 11, 500 | 11, 840 | 10, 910 | 11, 340 |
| $5,000 to $9,999 | 4, 610 | 6, 500 | 6, 820 | 5, 850 | 6, 610 |
| Less than $5,000 | 4, 050 | 4, 080 | 4, 240 | 4, 070 | 4, 750 |
| All owner-operators [1] | 5, 820 | 7, 620 | 7, 280 | 6, 880 | 8, 130 |
| Tenants with farm products sold in 1956 valued at— | | | | | |
| $10,000 and over | 6, 280 | 8, 770 | 9, 450 | 9, 860 | 11, 410 |
| $5,000 to $9,999 | 4, 870 | 6, 660 | 6, 590 | 4, 560 | 7, 820 |
| Less than $5,000 | 4, 530 | 3, 890 | 5, 040 | 5, 290 | 6, 940 |
| All tenants [1] | 5, 170 | 5, 660 | 6, 490 | 6, 610 | 9, 360 |
| All operators | 5, 710 | 7, 360 | 6, 980 | 6, 790 | 8, 490 |

[1] Includes operators of farms not classified by value of farm products sold in 1956.

with larger incomes can afford larger policies. Also, many in the higher income classes were the older farmers who had had a longer time in which to build up cash values.

### Other Financial Assets

One of the more interesting findings of the study was the importance of this class of financial assets, which includes mainly notes and mortgages held and investments in unincorporated businesses. Apparently, some loans held by farmers were made to help their children get started on their own in farming or in other businesses. Sometimes, mortgages and sales contracts were taken in connection with the sale of farms. The nonfarm businesses in which farmers had invested were varied. A sampling of cases revealed a grocery store, an appliance store, a laundry, a farm machinery dealership, a welding shop, and a local pool hall.

About 18 percent of all farmers and ranchers in the Great Plains have financial assets of this kind. The range among areas was narrow; it varied only from 16 percent in the wheat–corn area to 20 percent in the northern range area. The value of these "other" financial assets, however, varied widely among individuals. Many reported assets of a few hundred dollars. A few had business interests and debts owed to them amounting to $50,000 or more. The average varied from $2,880 in the spring wheat area to more than $9,300 in the northern range and cotton–wheat areas (table 48). For the region, it was $6,100.

## Conclusions

As might be expected, the chief factors that affect the accumulation of financial assets are the amount of income and age of the operator, which reflects the length of time he has had to build up his savings. Usually, young farmers must use available income for farm investments or for rearing their families. A large proportion of young operators attempt to give their families at least partial financial protection by carrying life insurance.

The amount of financial assets, especially checking accounts, reported by farmers during the early summer of 1957 was probably smaller than the average for that entire year. This time of year sees the culmination of a period of heavy farm expenses, and few farm products are sold until later. Another observation concerns the relatively large holdings of financial assets in the cotton–wheat and winter wheat areas, which had experienced severe drought during several years preceding the survey. This suggests that in the late forties financial holdings were much more substantial. These holdings, together with income from nonfarm sources, prevented much economic distress that the drought might otherwise have caused. A more prolonged period of adversity, particularly if accompanied by a reduction in off-farm income, would entail a more severe test of their adequacy.

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